THE MEDICAL NEWS.
A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, DECEMBER 3, 1898. NO. 23.

ORIGINAL ARTICLES.

RESUME OF ONE HUNDRED CASES OF TUBERCULOSIS.

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THE one hundred cases of tuberculosis from which I gather the following statistics have come under my observation within the past four years, and include all those in which I have kept tabulated histories and notes with a special view to studying the etiology, primary lesion, subsequent distribution of foci, intercurrent complications, prognosis, and causes of death. The immense field thus suggested cannot be discussed within the narrow limits of a brief paper, and I shall confine myself, therefore, to these subjects as they affect these one hundred patients only. The advantage to be gained from considering cases to be reported in groups of one hundred is simply that all figures represent percentages, which for purposes of generalization is obviously a convenience. At the same time, I am fully aware that generalizing from a report of one hundred cases must be done with cautious conservatism, as the number in itself is too small to warrant conclusions in a broad sense.

In studying the etiology I have endeavored (*a*) to ascertain the influence, if any, of heredity, and (*b*) to establish, if possible, a clear history of infection. In the first instance I have been forced to the conclusion that the hereditary element in its strict sense, as a causative factor in tuberculosis, is practically insignificant, and while, no doubt, heredity will continue to pose, in the popular mind at least, as a figure of grave importance for a long time to come, it can in the scientific consideration of the causes of tuberculosis be almost entirely left out of consideration.

In a concise yet exhaustive paper on "Heredity in Phthisis," by J. Edward Squire of the North London Hospital for Consumption and Diseases of the Chest,[1] the author, after most thorough and painstaking inquiries, embracing 1000 families, reaches the following most important result: Percentage of the offspring of *phthisical* parents subsequently becoming tubercular, 33.16; percentage of the offspring of *non-phthisical* parents subsequently becoming tubercular, 23.65; percentage of influence due to parents or percentage heredity, 9.51. He then clearly shows that this small "percentage heredity" can be more than accounted for by the greater risk of exposure to which children of phthisical parents are necessarily subjected. Without giving more space to the valuable statistical information contained in this paper by Dr. Squire, I would suggest its perusal by those who do not agree with me on this point of hereditary influences in tuberculosis.

Looking into the heredity of my one hundred cases I have obtained the following results: The father was tubercular in 11 cases; the mother was tubercular in 19 cases; both parents were tubercular in 2 cases; paternal grandfather in 2 cases; paternal grandmother in 3 cases; maternal grandfather in 1 case; maternal grandmother in 5 cases. In a considerable number nothing was definitely known regarding the grandparents, a fact which, of course, makes the figures given under that head of little value. Leaving out of consideration, therefore, the grandparents, there are twenty-eight cases in which one or both of the parents were tubercular.

In one hundred *non*-tubercular persons investigated, and whose heredity I recorded, I found twenty-six whose parents, one or both, died of tuberculosis. I would not from this alone conclude that twenty-six per cent. of all individuals have tubercular parents, yet I do not believe that this figure would be far from correct in expressing the facts if they were known.

Unprejudiced and thorough investigation which it is quite unnecessary to detail here, has convinced me that tuberculosis is more prevalent among the children of tubercular parents than among those of non-tubercular *only* in so far as is to be fully explained by the additional risk of infection obtaining in the case of the former. In evidence that this risk is considerable, Squire found that while six per cent. more of the *male* offspring of phthisical parents than the male offspring of *non*-phthisical parents developed tuberculosis, in the incidence of the *female* offspring, fourteen per cent. more became tubercular among the daughters of the phthisical than among those of the non-phthisical parents; a difference of eight per cent. in favor of female children, who for obvious reasons are more closely associated with the diseased. Now, if the slight increase in favor of the offspring of tubercular parents were to be accounted for by hereditary influence alone it would affect the

[1] *The American Journal of the Medical Sciences.*

male equally with the female children. I clearly appreciate the additional risks of infection to which children of phthisical parents are subjected, and will agree that the disease may originally be so incepted and remain for years latent in the body, finally at one of the "change epochs" in the life of the individual or following some acute disease to take on progressive activity, often when no other theory than that of heredity seems logically to explain its etiology. But this is not heredity at all, and is nothing more nor less than infection, withal that it is difficult to trace its origin to one's perfect satisfaction. Indeed, I am much inclined to believe that phthisical parents impart to their progeny a certain immunity to the disease, a view which is borne out by observation, of which the following incident is an example: A clergyman and his wife, the latter having borne two children after developing pulmonary tuberculosis, took into their household by adoption the orphan child of a non-tubercular family. After surviving the birth of her last child six years the wife died. Both of her children are living and in excellent health to-day, the younger having passed her twentieth year. The adopted child came under my observation at the age of seventeen years, having developed acute pulmonary tuberculosis, from which she died. Satisfactory conclusions upon this point, however, I am aware, can only be drawn from statistics extending over considerable time and embracing thousands of cases.

In the second instance, *i. e.*, that of establishing a clear history of infection, I have not been so fortunate, although I am inclined to think that a more persistent inquiry, such as I have of late practised, would have been rewarded by more satisfactory results. I have been able to find a clear history of infection in twenty-eight of my cases, while in seventy-two the etiology is more or less obscure, obscure at least in so far as I am unable to demonstrate the source of the infection.

Regarding the matter of age, I believe I have met with no new features: Two occurred under the age of 10 years; 19 occurred between the ages of 10 and 20 years; 38 occurred between the ages of 20 and 30 years; 30 occurred between the ages of 30 and 40 years; 7 occurred between the ages of 40 and 50 years; 1 occurred between the ages of 50 and 60 years; 3 occurred between the ages of 60 and 70 years. The youngest case occurred in a female child of 5 years; the oldest in a male of 67 years. Hippocrates states that pulmonary consumption occurs most frequently between the ages of 18 and 35 years, which I think all recent statistics will bear out, as do mine, except, perhaps, as pertain to the first year of life.

Tuberculosis of the glands, bones, and serous membranes occurs frequently among very young children, as is shown by the researches of Froebelius, Bolz, and others, but I have seen relatively few cases of tuberculosis in the very young.

The immediate and exciting causes of the development of the disease in the majority of my patients where no distinct infection could be traced I have found to be in the order of their frequency, grippe, pneumonia, typhoid fever, pregnancy, or lactation, measles, and subacute and chronic gastro-intestinal disturbances. In many instances the disease has been insidious in its encroachment, with no history of any acute manifestation in its onset. As regards sex, forty-three occurred in males and fifty-seven in females.

The primary lesion in tuberculosis is at times and for obvious reasons a matter of considerable difficulty to determine, and my statistics in this respect are, therefore, necessarily only approximately correct, notwithstanding that all care was exercised at the time of first examination, and whenever autopsy was made at the post-mortem with this point in view. I found that the initial lesion occurred in the upper lobe of the right lung in 47 cases; the upper lobe of the left lung in 36; simultaneously in both apices in 8; the cervical glands in 3; the bronchial glands in 2; the bones of the vertebræ in 1; the mesenteric glands in 1; the right kidney in 1, and in the lower lobe of the right lung in 1. It may be of interest to note here that while thirty-three of my cases have been complicated with laryngeal tuberculosis, I have never been able to satisfy my own mind much less to demonstrate satisfactorily that the disease in the larynx was ever the primary lesion either in these thirty-three cases or any others which have ever come under my observation, and I confess that my experience in this respect has made me very sceptical as to the occurrence of primary laryngeal tuberculosis to any appreciable extent.

In many instances pulmonary tuberculosis progresses to a fatal termination without distribution of tuberculous foci beyond the pleuræ. Such patients die from exhaustion, hemorrhage, or sepsis, and seem to acquire an immunity to the effect of tubercular toxemia. In my experience when subsequent distribution of foci in regions more or less remote from the initial lesion has occurred, the development has been as follows:

Involving the pleura or pericardium or both in 90 cases; the larynx in 33; the cervical or axillary lymphatics in 10; the intestinal canal in 6; the endocardium in 6; the kidneys in 5; the peritoneum in 1; the skin in 1; the mesenteric glands in 2; the tonsils in 1, and the nose and pharynx in 1. In 94

of these cases the tuberculous process at some time during the course of the disease, usually in the beginning, has involved the lungs.

The genito-urinary system, exclusive of the kidneys, has been involved in the tubercular process in two cases, one in a female 12 years of age, in which the bladder, urethra, and vagina were involved (as shown by necropsy), and one in a male between 30 and 40 years of age, in whom the right testicle and inguinal lymphatics became involved, and who is still living after surgical removal of the affected organs.

Of complications in tuberculosis of a non-specific character, the most important in my experience have been lobar pneumonia and acute or chronic diffuse parenchymatous nephritis. Eleven patients have had intercurrent lobar pneumonia, in two of whom, as will be noted below, it was the immediate cause of death. Acute diffuse parenchymatous nephritis complicated two cases, the patients making good recoveries from the complication. Five had chronic diffuse parenchymatous nephritis, which persisted to the fatal termination, although not being the immediate cause of death, except in two cases. Intercurrent attacks of acute bronchitis, laryngitis, and inflammatory affections of the upper air passages have been of frequent occurrence, especially during the winter and spring months. As a rule, they have not been of serious moment, and have been as readily amenable to treatment as though occurring in non-tubercular individuals.

When pyrothorax occurs in tuberculosis it is usually from an infection other than that of the specific bacillus; in the cases in which I have made cultures, streptococci and staphylococci, and in one case pneumococci, have always been found, and I have regarded this complication as a pyogenic wound infection. It has never given me serious trouble in itself as a complication, and only in one instance was it necessary to drain from the outside. I have never seen it occur in tuberculosis except late in the disease, when adhesions already formed kept it walled off until bronchial drainage was established.

Pregnancy complicating tuberculosis becomes a serious matter, and is not as uncommon an occurrence as might be imagined. I shall speak of this more fully under "prognosis." It has complicated four of my cases. Endocardial complications of a non-tubercular type occurring in the course of the disease are, in my experience, usually of septic origin and contribute to the causes of death from exhaustion. It is highly probable that in my two cases complicated by acute nephritis, there was also an endocarditis, but heart signs of pathognomonic nature were unobtainable, and as both patients recovered from the complication and are still alive no autopsy has been made. Mitral lesions, no doubt of inflammatory origin, have complicated two of my cases. One patient has made an apparent recovery from the tubercular lesion; the other has passed from my observation. I have no history of other valvular lesion occurring as a complication in tuberculosis.

Fistulæ in the neighborhood of or connected with the rectum have complicated two of my cases, and have added much to the discomfort in both instances.

I would in this connection like to call attention to two more or less persistent phenomena which I have observed in this disease. They can scarcely be termed complications, but are sufficiently often present to indicate an association with the disease. That most commonly noted, and which has been invariably associated with the more chronic forms of the disease, is the peculiar "clubbing" of the terminal phalanges of both fingers and toes, a condition often noticed also in chronic valvular disease. The fluoroscope shows this to be less an enlargement of the bone than of the nails and soft parts, although the bone is itself somewhat enlarged. This phenomenon must have some connection with that obscure condition described by Pierre Marie as hypertrophic pulmonary osteo-arthropathy.

The other phenomenon mentioned is that very striking pigmentation of the exposed skin surfaces of the body; thirty-one of my patients demonstrated it; description is unnecessary, as all who have seen much of pulmonary tuberculosis will have noticed it. I believe it is regarded as due to deposit in the skin of waste pigments retained in the circulation.

The immediate cause of death in my experience has been somewhat difficult to define in most instances. I use the term "asthenia" for want of a better, but fully appreciate its lack of definition. It is, perhaps, better than "heart failure," although conveying scarcely more significance. The immediate cause of death in 34 cases was asthenia; in 2, hemoptysis; in 2, lobar pneumonia; in 2, uremia; in 1, sepsis, and in 1, acute miliary tuberculosis, making a total of 42 deaths. Since this report was written, however, I have news of the death of one more of these one hundred patients from laryngeal stenosis, a rare, though not unknown, cause of death in tuberculosis.

The average duration of the disease in my fatal cases has been, as nearly as I could discover, something under two years, but this period applies only to the duration of the active progression of the disease. I am convinced that a tuberculous focus in which may be found live bacilli can, and in many apparently acute cases does, exist for many years

without giving its host sufficient discomfort to occasion discovery. In these cases appearances often conceal the true condition of things, and a diagnosis of primary acute tuberculosis is made and borne out by a rapidly fatal termination.

The features which have given me the most reliable data upon which to base a prognosis have been pulse and temperature, degree and rapidity of emaciation, condition of the organs of elimination, and condition of the digestive system. I think I have mentioned them in the order of their importance in a prognostic sense; of course, the locality of the primary lesion and the amount of involvement, together with existing complications, are of primary importance. It has been my experience that a small, compressible pulse persisting above 120 is usually indicative of progressively fatal cases, while a fairly strong pulse remaining below 100 is found in cases amenable to treatment. A temperature reaching 102° to 104° F. once or twice during the day, with remissions or intermissions and profuse diaphoresis, either associated or not with a rapid pulse, has been of unfavorable import with me, and has usually marked the onset of an uncontrollable pyogenic infection. When an acute miliary tuberculosis supervenes upon a chronic condition the temperature wave is not marked by such deep remissions, and there is less diaphoresis, although the temperature may reach much higher points than in the ordinary streptococcic and other pyogenic infections.

Emaciation, which has progressed rapidly to a considerable degree has, in my experience, indicated an unfavorable prognosis, although there have been numerous exceptions to this rule. When the weight ceases to fall and responds to forced alimentation, in the absence of other unfavorable signs I have found improvement more or less constant to follow. On the other hand, I have witnessed a gain in weight of nearly a pound per day in cases which were progressing to fatal termination, but this is exceptional. Acute nephritis, if at all severe and when of an infectious origin, must of necessity be a serious complication, although both of my patients recovered, probably because the affection was localized within narrow limits. The presence of chronic Bright's disease would make the prognosis necessarily fatal, although as to time it shortened life twice, and seemed not to materially do so in the other three cases of mine. The condition of the skin as an eliminative organ is of important significance in prognosis. In one of my cases intercurrent chicken-pox contributed largely to a fatal termination. Diarrhea, on the one hand, and persistent constipation on the other, have complicated unfavorable cases. Depraved digestion, from whatever cause arising, is a serious symptom in a disease in which nutrition is the main therapeutic consideration, and when persistent has materially contributed to an unfavorable termination. regnancy in any stage of tuberculosis has invariably increased the activity of the disease, all but one case having terminated fatally within a few months of parturition, but my patients became pregnant in the latter stages of the disease. I have no statistics on pregnancy in early tubercular disease. Mitral disease has appeared in my two cases to have had a beneficial effect upon the tubercular process, which I believe is the rule.

The amount of expectoration and the number of tubercle bacilli present therein has, within reasonable limits, no prognostic significance whatever. Sputum from a very favorable case is often found to contain innumerable bacilli in every field, while some of the most vicious cases in my experience have produced very little expectoration and only few bacilli, sometimes necessitating a long hunt to find them at all. The presence of bacilli serves to clear up the diagnosis beyond all doubt, but the number found has little significance in prognosis. Likewise examinations of the blood made at stated intervals have given me no reliable data upon which to form a prognosis. It has lately been demonstrated that Ehrlich's diazo reaction in urine, when obtained in tuberculosis, indicates almost invariably a rapid and fatal course of the disease, a rule which applies to any stage of tuberculosis.

Primary development or secondary extension of tuberculosis into the left lung, especially into the lower lobe, has been followed by more rapidly fatal results, and left pulmonary tuberculosis has been less amenable to treatment than when the right side has been affected, other things being equal. Primary infection occurring after the sixtieth year has been rapidly fatal, and very little influenced by treatment, but when a reinfection occurs at an advanced age from an old latent focus I have found a tendency to self-limitation quite marked, a fact which is contradistinct from the tendency in early life, when the reinfection or auto-infection arising from a diseased lymph-gland or joint is usually rapidly fatal.

That immunity to tubercular toxemia may be acquired by some individuals I have seen demonstrated in many instances, a very unstable immunity, however, which any intercurrent complication may destroy. In one instance coming under my observation several years ago, and which is not included in the above group, a man fifty years of age had had pulmonary tuberculosis for thirty years. Bacilli were demonstrated in the sputum as soon as Koch's methods of demonstration were practised in

this country. After the first year of the disease he appeared to regain a normal standard of health, which continues to the present time, notwithstanding that there is an area of dulness over the upper lobe of one lung and bacilli are still to be found in the sputum. Such immunity, however, is exceedingly rare, although I believe it would be more often obtained if other pathogenic infection could be excluded.

EXTERNAL ESOPHAGOTOMY FOR IMPACTED FOREIGN BODY IN THE ESOPHAGUS, LOCATED BY THE X-RAY.[1]

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SINCE Goursald, in 1783, first removed by external incision an impacted body from the esophagus, the operation has been performed upward of 175 times, most of the subjects having been operated upon during the last fifteen years. Bones, artificial teeth, and coins constitute the majority of impacted bodies calling for operative interference. In the entire number of patients operated upon up to the present time the mortality has been twenty-two per cent. This includes those cases in which the impaction has been of long standing, as in Dr. Furner's case, in which he removed by an incision in the posterior wall of the esophagus a dental plate which had been lodged there for nearly five years, and those cases in which the impaction has been of but a few hours' duration. The mortality during the period of aseptic surgery has been lowest in those cases in which there has been an early operation, in which patients the tissues have not been contused and lacerated by frequent and prolonged efforts to dislodge the body by means of the various esophageal instruments, and has been highest in those cases where some time has been allowed to elapse between the impaction of the foreign body and its removal.

After having looked over the literature of the subject I am inclined to believe that in many of the cases better results might possibly have been obtained had the operation been resorted to at an early hour after the impaction had become complete, rather than wait a considerable length of time and then operate when the tissues are partially devitalized and the field of operation perhaps infected. When one is sure that the impaction has become complete the rule should be to operate at once. Nothing is to be gained by procrastinating, as under proper conditions the operation is not difficult and the results are most gratifying.

The case which it is my privilege to report occurred in the practice of Dr. W. K. Newton of Paterson, N. J. The history is as follows:

On May 1, 1897, C. D., male, aged seven years, was suddenly seized with severe retching and coughing. His mother upon questioning the boy learned that he had swallowed a small tin whistle with which he had been playing. Dr. Newton saw the child two hours after the accident occurred, at which time he was suffering from rather marked dyspnea and absolute inability to swallow even water. At 8 P.M., four hours after the accident, the dyspnea had become more marked. There was slight cyanosis, the respirations being labored and rapid. Edema was present under the eyes, and there was complete inability to swallow. The tongue was somewhat swollen and the pharynx markedly congested. Palpation elicited a slight bulging in the median line of the throat about an inch above the sternal notch.

Appreciating the shape of the foreign body the patient was placed under complete chloroform narcosis and a long coin-catcher was passed down the esophagus. The impact of the instrument against the metallic body could be readily felt, and after some little effort it gripped the body firmly, but slipped off when traction was made upon it and no further hold could be obtained. After this manipulation the prominence which had been felt just above the sternum could no longer be distinguished. The breathing at this time became much less labored and in a short time the child was able to swallow liquids, although with considerable difficulty.

Thinking that the whistle, which had been lodged at right angles to the esophagus, was now located parallel to it (it having been tilted into this position by the coin-catcher), which fact would account for the disappearance of the dyspnea, owing to the pressure being taken off the trachea, and to his ability to swallow, on account of the lumen of the esophagus not being entirely occluded, a basket-shaped catcher was made of medium-sized copper wire and an endeavor was made to pass this beyond the foreign body, hoping to engage it as the instrument was withdrawn. All efforts to reach the body were unsuccessful, and owing to the congested and swollen condition of the pharynx, further manipulation was discontinued.

The following morning, the breathing being somewhat impaired and dysphagia rather marked, although the child was able, with some little effort, to swallow milk and egg, there was a feeling of uncertainty as to whether the foreign body might not have been pushed on into the stomach and the dysphagia the result of our efforts of the preceding night to dislodge it. That afternoon an X-ray exposure was made from the chin to the umbilicus, and it distinctly showed the whistle lodged transversely in the median line of the neck about an inch above the sternal notch The boy was transferred to the private ward of the hospital, and at 10 o'clock the following day, forty-one hours after the impaction of the body, was operated upon.

An incision was made from the lower border of the cricoid cartilage to the upper margin of the

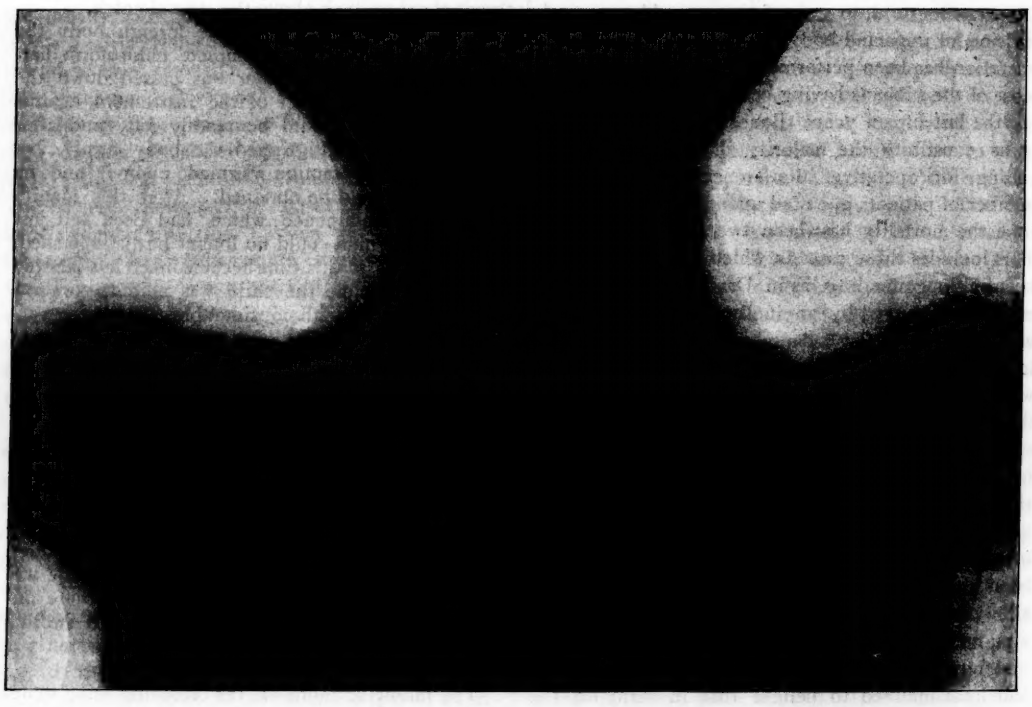
[1] Read before the Medical Society of New Jersey, at Asbury Park, N. J., June 29, 1898.

sternum, extending along the anterior border of the left sternomastoid muscle. The muscle was drawn to one side, the sternal attachment of the sternomastoid divided so as to afford more room, and the dissection was then carried down to the large vessels which in their sheath were drawn outward by a short retractor. The trachea and thyroid glands were drawn down inward by a second retractor. The esophagus, with the recurrent laryngeal nerve lying upon it, was next exposed. The esophagus with the adjacent tissues both above and below the foreign body were considerably swollen and congested, and at the side where the whistle was in contact with the esophageal wall the tissues were decidedly thinned, showing the utter futility and great danger which would have resulted from an endeavor either to draw the body up or to force it down. In either case the esophagus could have hardly escaped rupture and the tissues contusion and laceration.

An incision an inch long was next made on the anterior surface of the esophagus a trifle to the left of the median line and directly over the foreign body. A fine silk ligature was then passed through the edges of the esophageal wall in order that the wound might be held open. Then a tenaculum was introduced into the small opening of the whistle, and the whistle rotated until it assumed an anteroposterior direction and was then readily withdrawn. The tissues were then thoroughly cleansed with boracic-acid solution, the wound in the esophageal wall closed with interrupted sutures of fine catgut placed closely together, and the superficial wound closed with interrupted sutures of silk. Small pads of iodoform gauze were placed over the wound and a bandage applied snugly about the neck so as to exert considerable pressure over the wound in order that counter-pressure might be exerted during the act of swallowing. There was only slight shock and absolutely no nausea or vomiting following the operation. Small portions of sterilized water were administered as soon as the patient was able to swallow and continued at intervals of every half hour to an hour. At the end of twenty-four hours sterilized milk was administered, and after each feeding a few sips of sterilized water were given in order that the esophagus might be thoroughly cleansed. A small opening appeared in the lower angle of the wound on the third day, and when the patient swallowed a portion of the fluid found its way through this opening. Firm pressure upon the wound when the patient was taking nourishment remedied this entirely. The fistulous tract closed in seven days, and on the sixteenth day the patient left the hospital. He was able to take solid food and was apparently in good health. At no time after the operation did he have a temperature above 99° F.

In the light of this case I would draw the following conclusions:

FIG. 1.



Skiagraph of small tin whistle lodged in the esophagus of a child aged seven years. Removed by external esophagotomy.

1. A foreign body impacted in the esophagus for more than twelve hours, particularly if it be known to have edges liable to inflict injury upon the tissues if traction be made upon it, should be removed at once by external incision.

2. The prolonged and continued use of the various esophageal instruments should be condemned, as the tissues are usually contused and lacerated by their use and their vitality and resisting powers lowered.

3. When the tissues have not been lacerated and the impaction has not been of long duration,

FIG. 2.

Tin whistle removed by external esophagotomy. (Exact size.)

the tissues appearing healthy, the esophagus should be closed with fine catgut and the external wound closed completely.

4. It is better to give small portions of sterilized water at an early hour after the operation in order that the esophagus may be kept as clean as possible. Feeding by tube or per rectum is usually uncalled for. At the end of twenty-four hours liquid nourishment may be given, and after each feeding a few sips of sterilized water should be administered so that the esophagus may be again cleansed.

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*THE GONOCOCCUS.**

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SIX years after the discovery of the gonococcus by Neisser, Bumm, in 1885, succeeded in cultivating this organism artificially, and these pure cultures inoculated into the human urethra called forth typical cases of gonorrhea. The gonococcus is a strict parasite and until quite recently its cultivation artificially was attended by considerable difficulty. It refused absolutely to develop on the ordinary media and demanded that the whole, or at least a part of its nourishment, should be human blood-serum. Bumm's first cultures were obtained by inoculating gonorrheal pus on solidified human blood-serum obtained from the placenta; but Bumm's method did not permit of the isolation of the gonococcus except in a very imperfect manner as his medium was solid, thus very frequently allowing other micro-organisms present to grow so rapidly as to prevent the development of the gonococcus. So much was this true that he did not believe it possible to cultivate the gonococcus from pus obtained from the genital organs of the female as the other numerous organisms present would outclass it. It was then that Wertheim[1] came forward with his plan of cultivating this organism by means of the plate method, thus permitting of the isolation of the gonococcus even when numerous other organisms were present.

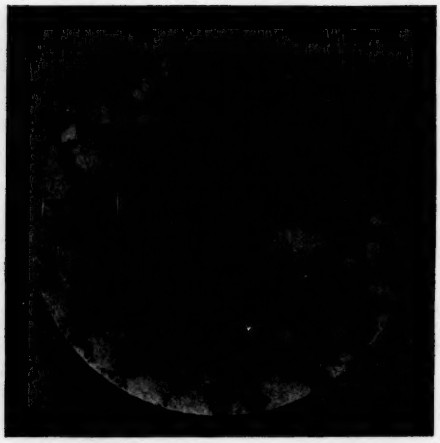
Wertheim's method consists in inoculating sterile liquid human blood-serum (original, first, and second dilutions) with the material to be examined. The same amount of ordinary agar is then added to each tube, the contents being carefully mixed and then plated. Wertheim's experiments have passed down as classics in the history of this organism and he gives in detail the results obtained by the inoculation of five different human urethras with pure cultures obtained by his method[2]. The cases left nothing wanting from a clinical standpoint, a period of incubation for two days or longer, abundant purulent discharge containing typical gonococci, and lasting in no case less than four weeks and in one case more than two months.

Bockhart substituted with success for serum thus obtained the exudate of a pericarditis. Other of the pathologic sera have been successfully used, as hydrocele fluid, pleuritic and ascitic effusions, the latter, according to Sée, being the best adapted of all the sera, not the least of its advantages being the ease and the great quantities in which it may be obtained.

It had been attempted by different observers to substitute for human serum that obtained from the lower animals, but with little success until Wasserman[3] introduced the use of hog-serum into the technic. As the pure culture which is here shown was obtained by Wasserman's method it may be well to state it briefly in detail. Fifteen c. c. of hog-serum, diluted with from 30 to 35 c. c. of water, is placed in an Erlenmeyer flask. Two to 3 c. c. of glycerin, and .8 grm. (2 per cent.) of nutrose is then added. This last preparation was introduced into commerce by Salkowski under the above name and is a sodium-casein phosphate and among other things has the property of preventing serum from solidifying when heated over a flame. The mixture is then cooked over a flame for from 20 to 30 minutes. When ready for use it is mixed with equal parts of ordinary two-per-cent agar. The mixing must take place at between 50° and 60° C. and not at boiling temperature. By this method I have suc-

* Read before the Denver and Arapahoe Medical Society, October 11, 1898.

ceeded in cultivating the gonococcus without difficulty, although with the above dilutions of the serum it was not found that the serum coagulated either with or without the addition of the nutrose. The developing colonies correspond very closely to those described by Wertheim, especially the superficial ones. These show a slight, compact, central portion, from which extends a slender, transparent, and uniform zone of slight dimensions. The majority of the colonies are in the depth of the medium and are compact and of a round, oval, or irregular form. In "fishing" a colony to examine on the cover-glass the forms are not seen so well as by making an impression preparation. In the impression preparation the forms can be observed well differentiated,



Gonococcus, pure culture, by Wasserman's method. (Zeiss homo. immer., 1-12, prog. ocular No. 4.)

showing the characteristic morphology of the gonococcus with the unstained central slit. Of course, these colonies lose their stain completely when treated by the Gram method.

It is not to be supposed, however, that the practising physician will undertake the cultivation of this micro-organism as it is beyond the reach of one not supplied with proper laboratory equipments and training, but as it may with almost absolute certainty be differentiated by aid of the microscope, with proper methods of staining, the difficulty in cultivation has not interfered with its usefulness as an aid in clinical diagnosis.

Unstained gonorrheal pus under the microscope gives an interesting picture. Scattered throughout the field may be seen refractive bodies grouped in couples, true diplococci. Some of these bodies may be seen in motion, and the motion most frequently to be observed is a rotary one in which the cocci often unquestionably change their position so that the motion cannot properly be regarded as Brownian or molecular, as it was by Bockhart, but is a representation of the vital activity of the organism.

The finer structures of this micro-organism are best revealed by a stain of delicate selecting power, such as Löffler's methylen-blue. The gonococcus is seen to be composed of two symmetrical bodies uniformly rounded on their dorsal surfaces and having their flattened surfaces facing each other and separated by a slight uncolored slit or fissure. According to Neisser and Bumm division takes place perpendicularly to the median slit, giving rise to groups of four and even eight cocci. These sarcinæ forms are most abundant and may be best observed in young, actively growing cultures. This mode of multiplication gives rise to a characteristic grouping of the gonococcus differing from the staphylococci grouping and yet difficult to describe. This grouping, the *amas* of the French, constitutes one of the recognized characteristics in the identification of this organism.

Another of the characteristics of the gonococcus is its situation within the pus-cells. Whether this is due to the active penetration of the cell by the gonococci, or whether the white cells incorporate the gonococci by virtue of their phagocytic action is still a question. The fact remains the same, however, in most if not all of the cases, that in the end the cell is vanquished by the gonococci, which multiply within its substance until they cause its disintegration. One meets with these disrupted cells quite frequently. Often only the fragment of a nucleus is visible, around which may be seen the gonococci with their characteristic grouping, occupying a rounded space, and no sign of the cell itself visible.

The most important characteristic of the gonococcus is that it decolorizes when treated by the Gram method, and this is so important that the technic may be mentioned in detail. The preparation, dried and fixed in the usual manner, is immersed a few seconds in Ehrlich's anilin-water gentian-violet solution, prepared by adding 100 c. c. of analin-water (5 c. c. of analin-oil to 100 c. c. of water), after being filtered, to 11 c. c. of a solution of gentian violet. The coloration of the specimen is instantaneous. Then, without washing, the surplus stain is drained off and the cover-glass immersed about half a minute in a solution containing 1 part of iodin, 2 parts of iodid of potassium, and 300 parts of water. It is then washed in two baths of absolute alcohol until no more blue color is given off.

This last step, with thin, evenly spread cover-

glasses, takes from one to one and a half minutes. The gonococci in the preparation are absolutely decolorized, while the pus-cocci and other diplococci retain their stain. This is a very valuable and practical method of differentiating the gonococcus from other organisms which may resemble it. The Gram method does not give as pretty a picture as the Löffler stain on account of the unavoidable sediment it leaves in the preparation, but accuracy in diagnosis is what should be sought for. It is convenient to divide the above procedure into two steps, the slide first being examined stained only with the gentian violet. This reveals the gonococci, if they are present, with their typical morphology, only they appear thicker and plumper than with Löffler's stain. If such diplococci are found to be present the slip is then placed in the iodin mixture and afterward in absolute alcohol. On reexamination, if the organisms first observed were gonococci, they will be found to have given up their stain to the alcohol; if they remain stained they positively are not gonococci.

Except in acute cases of very recent origin I do not believe one is ever justified in making a diagnosis of gonorrhea by the Löffler-stain method alone. In chronic cases the Gram method should never be neglected. The question becomes a very serious one when a patient, having had gonorrhea, it may be many months previously, presents himself for an opinion as to whether or not he may marry. In such chronic cases it is often possible to observe the pus-cocci embedded in the pus-cells in such a manner that if regarded from the standpoint of their morphology alone they would be considered gonococci, but when tested by the Gram method they remain as darkly stained as before the iodin and alcohol solutions were added. In chronic cases not only should the gonorrheal threads in the morning urine be examined, but also the suggestion of Heim's is a good one, namely, to centrifuge the urine and examine the sediment. One occasionally finds a few pus-cells containing typical gonococci by this method when they escape observation by the other method, that is, in examining the threads alone.

To sum up the diagnosis of the gonococcus by the microscopical examination, then, we have the following: (1) Diplococci about one micromillimeter in size, of a coffee-bean shape, and situated in characteristic grouping. (2) The intercellular position. (3) The complete decolorization by the Gram method. No one of these characteristics taken alone is a sufficient guarantee for considering a given organism as the gonococcus, but together they give as nearly absolute a criterion as is possible without the culture and the reinoculation of a healthy urethra.

None of the above divisions has remained free from criticism. The characteristic grouping has remained the least so, for as has been so strongly insisted upon by Sée[4] it is scarcely to be found with any other organism. With reference to the intercellular position there are, of course, other cocci to be found within pus-cells which are not gonococci, but almost without exception they retain their color when treated by the Gram method. In a criticism of the Gram method Hogge[5] states that he regards the method as unreliable, for by varying the time of the staining and the decolorization one obtains varying and untrustworthy results. But this objection should have little weight as by varying the time with the ordinary solutions for staining the tubercle bacillus one may also obtain uncertain results, as for example, too short a straining with the carbol-fuchsin and too long an exposure to the acid methylen-blue, yet by a proper timing of those two stains the results are absolutely trustworthy.

Perhaps the most serious objections that have been raised to the Gram method are those by V. Hibler[6]. He found that by subjecting fresh gonorrheal pus to "secondary changes," such as desiccation under certain conditions, the gonococcus at times gave up its stain and at other times retained it. He also ascertained that by placing such pus in urine for from ten to twenty hours the reaction was also uncertain and, according to him, unreliable. But as Sée justly remarks, whatever may be true of the gonococcus when placed under such unnatural conditions with reference to the Gram method, the incontestable fact remains that when taken in its natural and unaltered condition the gonococci in gonorrheal pus will always give up their stain when properly treated by the Gram method. Hibler also found that under certain unnatural conditions the staphylococcus pyogenes aureus would give up its stain when treated with the iodin solution and alcohol, but the same objection to his methods and observations would also apply here. Lastly it must be mentioned that Bumm records that forms have been found in the healthy urethra that morpholog cally resemble the gonococcus and yet gave up their stain to the alcohol. These exceptions are so extremely rare, however, and have so seldom been met with by other observers that they should have but little, if any, influence in deciding a diagnosis.

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CLINICAL MEMORANDA.

THE PRACTICAL TREATMENT OF SCALDS AND BURNS.

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CASE I.—Girl, aged sixteen years; burned on the back extensively. She was treated with dry dressings, bismuth subnitrate being used. After a few weeks she died, just before death having symptoms of bismuth poisoning.

CASES II. and III. were severe burns from lightning. The patients were first treated with dry dressings, and the mere dressing of the burns caused so much pain that one screamed with fright when she saw me coming. Unguentine was substituted and both patients made a rapid recovery.

CASE IV.—Frank W., aged twenty-five years, single, on December 28, 1895, while engaged in raking salt from a vat made a misstep and fell backward into the scalding brine, striking on the buttocks, one arm and side of legs, all of which were immersed, together with both wrists, and the lower half of the back and abdomen. He was quickly removed and his clothing cut from him, and was then wrapped in a blanket. Upon my arrival I found him in great agony. I gave a hypodermic injection of morphin to quiet pain, and strychnin and digitalis internally, and applied heat externally to counteract shock. I dressed the scalded area with soft muslin saturated with carbolized linseed oil and lime-water. After six hours the dressings were removed and the blisters evacuated, the latter having formed extensively wherever the skin had been scalded. The scalds were again dressed as before, and morphin, cardiac stimulants, and diuretics were given. The patient's temperature was 102° F., and his pulse 120. He was very restless and delirious at night. These symptoms continued for nearly ten days, then gradually subsided. The dressings were changed three or four times a day, and during the interval were kept moist with the oil solution. The removal of the dressings caused a great deal of pain. They were very offensive. The oil was used so extensively that it soiled the bedding and furniture beyond repair. On the tenth day the oil dressings were exchanged for unguentine, spread on narrow strips of muslin. The patient experienced great relief and the wounds were dressed much more quickly and easily. It was found that the dressings did not get dry and hard. The sloughing which had been present ceased and also the odor. The unguentine acted speedily and effectually, restoring the destroyed tissues, and in places where granulation tissue had appeared it cauterized and healed simultaneously. The patient made an uneventful recovery at the end of thirty days and has been free from the complications attending other methods of treating burns and scalds.

Some of the advantages of unguentine as an ideal dressing may be summarized as follows: (1) Easy to apply. (2) Great relief to patient, acting as a sedative, cooling, and non-irritating. (3) It does not dry out so quickly, and consequently the dressings do not have to be changed so often. (4) Rapid cicatrization. (5) When used early it prevents formation of granulation tissue. (6) It is non-toxic. (7) Patients recover more quickly under the unguentine treatment than any other. (8) Prevents the necessity of skin-grafting in a good many cases by hastening the reparative process. (9) It is much more convenient, neat, and practicable.

ACUTE PULMONARY EDEMA SUCCESSFULLY TREATED BY VENESECTION.

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IN most of the articles on acute pulmonary edema venesection is spoken of as a proper treatment, though often with too little emphasis. Since practical illustrations of this truth are infrequent, the following case may be of interest:

Mrs. H. E. C., aged twenty-five years, of Cripple Creek, was referred to me by Dr. B. F. Cunningham for heart disease. She first consulted me at my office on October 6, 1898. There was a history of inflammatory rheumatism at the ages of five, eleven, and eighteen years, of dyspnea on exertion during the previous three months, and during one month moderate swelling about the feet and ankles. Two or three recent attacks of fainting with dizziness and cardiac weakness had led her physician to advise immediate removal to a lower altitude.

On physical examination I found the patient rather enemic and poorly nourished, her weight being about 105 pounds. There was slight edema about the ankles and shin-bones. There was no cyanosis, and no dyspnea was perceptible at the time of examination. The lungs were negative. The heart was very considerably enlarged, the apex being 2 inches outside the mamillary line, and the right border 1½ inches to the right of the median line. Its action was regular, though somewhat exaggerated. At the apex was a marked thrill. Auscultation disclosed a diastolic blowing souffle at the base, heard loudest in the third space close to the left sternal margin, where it quite replaced the second sound. Over both the aortic and pulmonic valves the second sound was quite clear, and over the latter it was accentuated. At the apex there was a double souffle—one plainly systolic, blowing in quality, and replacing the first sound, and another also blowing in quality and occupying the latter half of diastole. It seemed that the latter was probably stenotic, although it lacked the usual rough quality of this murmur. The liver was slightly enlarged downward on percussion, but its edge was thin and not palpable. The urine was non-albuminous, and further examination of the abdominal organs was negative. The diagnosis was, therefore, chronic rheumatic endocarditis of both mitral and aortic orifices, mitral stenosis

and regurgitation, aortic regurgitation, and dilatation of both right and left heart with beginning failure of compensation.

Ten drops of tincture of digitalis three times daily was prescribed and careful directions were given as to exercise and diet. On October 22nd, sixteen days later, I was hastily summoned by the report that she was dangerously ill from sudden "heart failure." I learned that in the meantime she had felt better, gone back to Cripple Creek, had another spell there of heart weakness and fainting, returned immediately to Denver, and apparently continued to improve until this present attack which had followed immediately upon a walk of several blocks. I reached her at 8.30 P.M., about an hour after the attack began. She was sitting propped up in a chair, with head drooping and marked cyanosis of the lips and fingers, breathing with moderate difficulty, and constantly passing a large quantity of white frothy sputum. The pulse was very rapid—I should say 140—with irregularity, rather hard but empty. The edema of the feet noted at the first examination had disappeared. On listening to the heart, its action was found to be so tumultuous that the movements were hard to distinguish. The lungs were choked with coarse and fine moist râles throughout the lower two-thirds at the back, both sides, and the lower third in front. The rate of respirations was only about 30; but it was evident that there was quite a considerable degree of "air hunger," and the patient was continually complaining that she could not get her breath. One-fourth of a grain of strychnin had been given by another physician before my arrival, and I immediately injected 1-30 of a grain more. I gave, as soon as possible, about 7 grains of camphor hypodermically in the form of a ten-per-cent. solution in olive oil. Two drops of a one-per-cent. solution of nitroglycerin was administered, in the hope of easing the left heart. In spite of these measures the patient grew steadily worse. At 10 o'clock the cyanosis had increased, the breathing was more labored, and the complaints, "I can't breathe," "If I could only get my breath," were more constant and pitiful. The pulse had become more rapid, and râles could now be heard even in the upper part of both lungs. Cough was almost continuous, and the sputum, the quantity of which was enormous, was now stained with blood. The cerebrum also began to show signs of intoxication and the patient complained that the room looked dark and that her vision was indistinct. It was quite evident that the case was moving in the direction of a fatal termination.

It seemed to me, therefore, that the only possible means of relieving the pulmonary stasis was venesection. The left ventricle had evidently faltered in its task of compensating a double valvular lesion, and powerful cardiac stimulants had failed to impart sufficient vigor to affect a destruction of equilibrium. Oxygen would undoubtedly have given some temporary relief, but could have had no effect on the underlying mechanical condition. Active catharsis might have depleted in time, but here there was evidently no time to spare. The only possible recourse appeared to be the direct removal of venous blood, although the subject was already enemic, and far from the robust condition generally associated with the thought of venesection.

I asked Dr. J. N. Hall of this city to see the patient with me, requesting him to bring a lancet and bandage. Since his opinion accorded perfectly with my own as to the advisability of venesection I proceeded to overcome the objections of certain members of the family, who insisted that "it would be sure to kill her," and removed twelve ounces of blood from the right median cephalic. The result was remarkable and almost instantaneous. It is true, the first effect was a pronounced feeling of faintness, but this was soon overcome by the recumbent posture, and in a few moments the patient affirmed that she could breathe much easier. And indeed no such statement was necessary in order to assure us that there was, at least temporarily, a wonderful improvement. The cyanosis of the lips had nearly disappeared, the cough and abundant expectoration had ceased, the respiration was slower and less shallow, and the pulse, which was now softer and fuller, had fallen to 108. The heart had evidently been greatly relieved.

Venesection was performed at about 11 P.M. Soon afterward, in order to assist still further in maintaining the pulmonary depletion, I applied two large dry cups to the back. Fifteen minims of tincture of digitalis were also injected subcutaneously to guard against recurrence. At 1 A.M., although the patient was quite comfortable and breathing easily, 1-12 of a grain of morphin was injected with the thought that such a dose would possibly add to the increasing comfort and act, if at all, as an additional cardiac stimulant. By 2 A.M. improvement was even more marked; only a few râles were to be heard in front, and since all danger seemed to be past I left the patient for the night.

The subsequent history was uneventful. In thirty-six hours râles had wholly disappeared from the chest, and the patient, except for some weakness, was in every way as well as before the attack.

It may, perhaps, be of interest to note that immediately after venesection the only murmur to be heard was a rough, rumbling presystolic one, almost like a reduplication of the first sound. Later (on the following day) the systolic murmur had disappeared, and finally the aortic diastolic murmur was also not to be distinguished.

There are two reasons why the foregoing case seems to me worth reporting. In the first place such attacks of acute pulmonary edema are not at all common. While it is one of the most frequent things in practice to meet with an edema of the lungs, such edema is usually either an accompaniment of general anasarca and a mere terminal development; or it is partial, more subacute or chronic, and relatively unimportant. Here the edema might probably be termed *acutissimum;* it came on without warning, under fairly good compensation of the existing heart lesion, and within a couple of hours became so threatening as to make it evident that without relief the patient would rapidly succumb. Such cases are certainly rare, and yet exceedingly important because of the energetic treatment which they demand.

Again, the brilliant result of venesection in this case is not without interest, and may prove a stimulus to others in a like emergency. Fifty years ago it would have seemed ridiculous to report a case of simple venesection, but to-day it is a different matter. It is really not so easy to decide to bleed a person in the face of the strong sentiment against the procedure which exists in the minds of both laity and profession. A death after venesection is likely to arouse much comment, especially if the patient appears to be already weak and bloodless. In the present instance it certainly seemed a desperate remedy, and yet I am convinced that nothing else would have arrested a fatal result.

The indication for venesection in cases of pulmonary edema would seem to be its sudden and excessive development as a result of acute pulmonary congestion in a patient who has hitherto shown but moderate signs of failing compensation. Where it occurs in cases of general anasarca, toward the close of life, it is very questionable whether it is the edema which destroys life, or whether this is not rather due to a progressive cardiac insufficiency of which the edema is a mere terminal incident. At all events venesection is rarely indicated under such circumstances; no case has ever come under my observation where it was even considered. To feel justified in resorting to it, one must be confident that the edema is an accident, as it were, resulting from some sudden and unusual strain upon the heart, from which the latter is quite capable of rallying if only the extra burden be once removed. The good which it may then accomplish is certainly one of the most striking and beneficent results of therapy that the writer has ever seen.

MEDICAL PROGRESS.

Volvulus of the Stomach.—BERG (*Centralb. für Chir.*, September 3, 1898) describes two cases of twisting of the stomach upon its axis, the diagnosis resting not only upon the symptoms which were present, but being confirmed by operation and the course of the trouble during convalescence. In both instances operation was performed with entire success. From the character of the lesion the name volvulus of the stomach seems a suitable one.

Spasmodic Tumor of the Stomach.—SCHNITZLER (*Centralb. für Chir.*, September 3, 1898) found upon repeated examinations of the abdomen of a hysterical woman aged thirty-five years, a tumor in the pyloric region. The tumor was the size of a small apple, movable, though not moving much with respiration, and painful on pressure. It was not present at all examinations. Laparotomy was performed, and the stomach appeared normal, although the pyloric muscular apparatus was somewhat thickened. Suddenly under the eyes of the operators a tumor developed about 3.5 inches long and 2 inches wide, extending upward from the pylorus. This subsided in forty-five seconds, but reappeared some minutes later. A pyloroplasty was performed for the relief of the ulcer suspected to be present, upon the same principle that the sphincter of the anus is stretched for a fissure.

Puncture of the Transverse Colon in Typhoid Fever.—DALGLEISH (*Lancet*, October 1, 1898) mentions an instance in which ready action on the part of the physician undoubtedly saved the life of a young man suffering from typhoid fever. The case progressed rapidly, and on the seventh day tympanites displaced the heart and interfered with its action. The apex beat was well above and to the left of the nipple. The passage of a long tube up the rectum led to the evacuation of a quantity of offensive fluid, but the distention was not relieved. The transverse colon could be plainly seen through the abdominal walls. A trocar and cannula were, therefore, pushed into it, and gas escaped with a loud noise for two minutes. The temperature dropped from 104° to 100° F., the bowels became regular and stronger, delirium disappeared, and gas was thereafter passed from the anus. No untoward symptoms followed this radical procedure. Eight days later there was hemorrhage from the bowels, and the case throughout was a severe one, but the patient ultimately recovered.

Advantages of a Permanent Closure of the Rectum after Operations for Cancer.—KEEN (*Louisville Jour. of Surg. and Med.*, September, 1898) has come to the conclusion that after a resection of the rectum for cancer the patient is in a more comfortable condition if the lower end of the bowel is closed altogether, and the feces are allowed to escape through a permanent abdominal fistula. The sacral anus is unsatisfactory because it necessitates the wearing day and night of a napkin, and there is often beside more or less prolapse of the bowel, and frequently involuntary escape of fecal matter. Moreover, if an operation is done without a preliminary abdominal colostomy there is great danger of infection, because it is impossible thoroughly to cleanse the bowel and protect the wound. Keen, therefore, always precedes his resection by a Maydl's colostomy. Then the upper bowel can be thoroughly emptied and the lower one cleaned in a manner which would be impossible if such an opening had not been made. The rectum is then resected and permanently closed. The condition of the patient afterward is most satisfactory. He can wear a belt as tight as is necessary, both to prevent the escape of feces as well as to prevent prolapse, and the situation of the anus is such that its care can more readily be attended to by the patient himself than when it is in the sacral region.

Diagnosis of Pulmonary Tuberculosis in the Child.—MEUNIER (*La Presse Med.*, August 13, 1898) makes the diagnosis of pulmonary tuberculosis in the child by microscopic examination of swallowed sputa. He speaks of the different methods by which attempts have been made to obtain for examination the sputa of young children suspected of having pulmonary tuberculosis. As is well known, the young child does not spit, but swallows the discharges from the trachea and lungs. Two methods have been proposed to obtain this mucus for microscop-

ic examination. Kauffmann, by means of a sound and swabs, wipes out the back of the throat. Kossel, by examining the sediment of the fecal matter collected in the centrifuge has been able to stain and demonstrate the presence therein of tubercle bacilli. Meunier finds it far simpler and more satisfactory to pass a tube into the stomach and empty and wash out that organ. The swallowed sputa are readily recognized, and obtained for a microscopical examination. In fifteen cases in which this method of examination was carried out and subsequently confirmed by post-mortem examination, it was found that only in one instance did the microscope fail to reveal the presence of bacilli when pulmonary tuberculosis existed. This method of examination can be more successfully applied in advanced cases in which there is abundant sputum of a mucopurulent character.

A Word as to the Suture of Hairy Skin.—BOND (*Maryland Med. Jour.*, September 24, 1898) says that an oblique wound through skin in which hairs are growing is often prevented from uniting, even though approximately stitched. This is because of hairs which have been divided obliquely. As they continue to grow they are unable to find their openings in the superimposed flap, and therefore grow up between the upper and lower edges of the wound, causing irritation, and possibly stitch abscess. The treatment for such a wound is to open it, liberate the hairs, and cut off the projecting flap in order that the deeper hairs may have no overlying tissue to interrupt their growth. These facts will explain both the slow healing of wounds of hairy skin and the wide white scars which are so common in the scalp and face.

Diagnosis of Typhoid Fever by the Aid of the Microscope.—MACLEAN (*Maryland Med. Jour.*, September 24, 1898) has been greatly assisted in the diagnosis of cases of typhoid fever by microscopic examination of the blood. Almost all local inflammatory processes produce leucocytosis, while typhoid, if free from complications, does not do so. In two cases which appeared to be typhoid fever the examination of the blood showed no leucocytosis. Further developments proved that both of these patients were suffering from abscess of the liver. At other times the blood-count has served to distinguish appendicitis and typhoid. Late in the disease various complications, such as otitis media, perforation or abscess, will lessen the value of this symptom, but in the early stages the absence of leucocytosis is strong confirmation of a diagnosis of typhoid. The writer emphasizes the following points:

1. The absence of leucocytosis is strong evidence that an existing fever is typhoid, malarial fever being excluded by absence of the plasmodium.

2. If leucocytosis does occur in the course of an unmistakable case of typhoid it indicates some untoward complication.

3. Both feces and urine should be carefully disinfected throughout the course of the disease. Too often directions to this effect are omitted by attending physicians.

4. Widal's reaction is diagnostic in many cases in which, at the time, clinical findings are obscure.

5. The value of serum diagnosis, as well as other methods, must be determined by the practitioner who controls the patient upon whom the tests may be made.

THERAPEUTIC NOTES.

To Increase the Power of Trional.—HABERMANN (*Centralb. für Inn. Med.*, September 17, 1898) administers trional in carbonated water, which by reason of the carbon dioxid contained in it, dissolves the drug and conceals its taste. It also hastens its action so that the patients often fall asleep within ten minutes after drinking the half or the quarter of a 12-oz. bottle containing only 15 grains of the drug. With such a small dose the patient sleeps eight hours and awakes without feeling tired and without headache.

Poisoning by Lysol.—CRAMER (*Centralb. für Gynäkol.*, October 1, 1898) reports a case of fatal poisoning from the use of three pints of one-per-cent. solution of lysol as a uterine douche. Several cases of death following the ingestion of pure lysol have been reported, while in three instances its application upon skin wounds has resulted fatally, but so far as known this is the first fatal case from the use of a diluted solution of lysol. The uterine injection was made immediately after the birth of the placenta but was suddenly interrupted by the collapse of the patient. She recovered from the collapse, however, only to die ten days later with symptoms similar to those of carbolic-acid poisoning. Cramer reckoned that a quantity of lysol equal to 7 minims of the drug may have found entrance to the venous circulation. The value of uterine injections depends not so much upon the disinfecting power of the fluid used as it does upon the mechanical cleansing. Hence, the importance of having the antiseptic fluid as weak as possible in case irrigation is employed after childbirth. Indeed, for this purpose, many prefer normal salt solution to any disinfectant.

A New Method of Treatment of Inflammatory Pelvic Troubles.—PINCUS (*Zeit. für Geburt. u. Gynaek.*, vol. XXXIX, p. 13) gives the following rules for the treatment of inflammatory troubles of the pelvic organs, which are based upon a wide personal experience as well as the study of the literature of the subject:

1. The treatment of inflammatory and exudative processes in the parametrium, pelvic peritoneum, and tubes ought to be a non-operative one. Surgical measures are to be regarded as a last resort, except in the case of those who are unable to afford the time and money for a conservative treatment.

2. The object of treatment should be, surgically speaking, the attainment of perfect rest of all the organs of the pelvis.

3. This is only to be secured by: (*a*) increase of the abdominal blood-pressure; (*b*) assistance of the venous current in its return; (*c*) greater rapidity of the lymph stream, with the help of gravitation; (*d*) elevation of the organs of the pelvis, at least the affected parts being

lifted well out of the cavity of the pelvis; (*e*) the greatest possible immobilization of the affected organs.

4. To accomplish these ends the patient should be placed on an inclined plane, making an angle with the horizon of from 12° to 35°, and compression should be exerted upon the abdomen. By auto-transfusion the medulla and the heart are stimulated to greater endeavor. Respiratory gymnastics should be practised to increase to its limit the aspirating power of the respiration. The diet should be carefully looked after, and not only the strength but the weight of the patient be kept up, so that the normal fat around the pelvic organs may not be wanting.

5. Treatment on an inclined plane should be continuous, interrupted only in those cases such as puerperal ones, in which there is a uterine discharge, or in which douches have to be given, etc.

6. Compression is either direct or indirect. Direct pressure may be accomplished upon the abdominal wall or through the vagina. It is usually best to exert pressure in both ways at the same time. Vaginal pressure is in most cases no more than the immobilization of the pelvic organs. Abdominal pressure may be produced by an elastic bandage, rubber plaster, a bag of meal, or by moist potter's clay from two to ten pounds. Vaginal pressure may be produced by an air pessary, by a colpeurynter, or by tampons. All of these should be perfectly aseptic.

7. Pressure should be continuous or intermittent according to the nature of the case. In acute cases it should only be applied in conjunction with inclination of the body, and should be employed only so far as fever and pain are thereby reduced. In chronic cases pressure should be continuous, unless pain or fever manifests itself. Pelvic massage is of great assistance in such cases.

8. This method of treatment, combining compression with the force of gravity, is of great service in all affections in which there is hyperemia of the pelvic organs, or in which it is desirable to improve the position of the uterus, or to loosen adhesions, as well as in the troubles already mentioned. The most striking benefit is received in chronic cases of parametritis, pelvic peritonitis, and affections of the tubes. The length of treatment varies according to circumstances from a few days to several months. In chronic cases, whenever possible, the patients should be up and about. At night the inclined position should always be taken, as well as occasionally during the day, but at other times the effects of elastic bandages on the abdomen and vaginal distension are sufficient to achieve the end sought.

9. If in spite of treatment the exudate does not grow smaller—this may happen in puerperal parametritis—and even with a light fever there is loss of strength, there is not only pus present, but most probably a perforation as well, which must be treated by operation.

Intoxication Produced by the Administration of Felix Mas.—SIDLER-HUGUENIN (*Corres.-Blatt für Schweizer Aertze*, September 1, 1898) has collected 78 cases of intoxication produced by the administration of Felix mas. No fewer than 12 of these patients died and 33 suffered from permanent blindness. In 18 instances the trouble was bilateral, and in 15 unilateral. Five other patients lost permanently some of the acuteness of their vision. Six others lost their sight temporarily. The examination of the eyes of these patients showed the lesions of simple atrophy of the optic nerve. These figures are sufficient to convince any one of the danger attending the administration of large doses of this poisonous drug. It is doubtless true that many lighter cases of poisoning are not reported. The symptoms in such cases are nausea, weakness, stupor, ringing in the ears, headache, heaviness of the limbs, trembling, hiccoughs, jaundice, albuminuria, with hyalin casts and ischuria. Such symptoms pass away in a few hours or in a day or two. On account of the poisonous attributes of Felix mas attempts have been made to separate its active principles but so far with incomplete success. The extracts, in order to have the best effect must be absolutely fresh; it is also important that the roots from which the extract is made should have been freshly gathered. The administration of castor oil, either before or after this drug, is to be condemned, since it seems to increase its toxicity. Some saline should be given if a laxative is necessary. Special caution is necessary in the administration of Felix extract to anemic or ill-nourished individuals. The preceding treatment of these patients should be made as short as possible, and if the earlier doses of Felix mas produce symptoms of intoxication no more of the drug should be given. If severe symptoms of intoxication manifest themselves they should be treated by injections of ether and camphor.

Meat in Lithemia and Gout.—BAUM (*Phila. Polyclinic*, October 1, 1898), who has tested lithemic and gouty patients with various kinds of diet, finds that in order to secure definite results it is best to order a fixed course of food for a certain period, and to discontinue all medicines during the test. Animal food, excepting milk, will cause a deposit upon the teeth of gouty patients within half an hour after a meal. If a meat diet is persisted in, there results a listlessness and irritability of temper, and often, depression of spirits. There may be pain around numerous small joints, cramps in the muscles, soreness in the heels, neuralgic pains in the head, offensive breath, bleeding of the gums, fevered tongue, scanty, high-colored urine, drowsiness, lassitude, ringing in the ears, cold feet, irregular heart, etc., etc. If a full diet, or even a moderate diet of animal food is taken for several weeks or months a gouty patient will be sure to exhibit some or all of the above symptoms. If a diet is prescribed which furnishes a minimum of products to be excreted, an improved condition of health will soon manifest itself. No poisons are more rapid in their action than those produced within the body. Meat supplies material for the manufacture of poisons so that in severe cases milk is the only animal food which should be allowed. It will rarely produce discomfort. As a rule, white potatoes are not well tolerated. Many patients cannot eat tomatoes and rhubarb. Each patient must experiment until a diet of suitable vegetables is found. The secret of success in the treatment of these diseases is to lighten the labors of the weakened eliminating organs.

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A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	$4.00
SINGLE COPIES	.10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	7.50

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made, at the risk of the publishers, by forwarding in *registered* letters.

LEA BROTHERS & CO.,
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SATURDAY, DECEMBER 3, 1898.

AN enterprising bureau of newspaper clippings in Germany has recently sent us marked copies of the newspapers published in German in which quotations from the MEDICAL NEWS have appeared during the past year. We have been not a little interested and gratified at the number of German papers by which we have been quoted, and think our readers may share some of our feeling of satisfaction in the matter. The list of papers includes the Berlin *Volk's Zeitung*, the *Berliner Fremdenblatt*, the *Berliner Zeitung*, the *Deutsche Tageszeitung*, the *Deutsche Wacht* of Berlin, the *Leipziger Neueste Nachrichten*, the *Dresdener Journal*, the *Magdeburgische Zeitung*, the *Kölnische Zeitung*, the *Stettiner Neueste Nachrichten*, the *Fränkischer Kurier* of Nüremburg, the *Chemnitzer Tageblatt und Anzeiger*, the *Neue Freie Presse* of Vienna, and the *National Zeitung* of Basel in Switzerland. The articles principally quoted are our letters from Cuba during the war, our foreign correspondence, and the reports of the proceedings of medical societies.

IT is officially announced that a six-day continuous bicycle race is to begin at Madison Square Garden, New York City, on December 5th. The New York consulate of the League of American Wheelmen, with the best interests of cycling at heart and a due regard for humanity in view, endeavored to have the Board of Aldermen of the city pass an ordinance forbidding it, but their efforts were in vain. New York is to be treated to another of those revolting exhibitions which have characterized six-day continuous cycling in past years. The daily papers will report in detail the mental hallucinations that the contestants are laboring under as the result of their persistent overexertion, and the morbidly curious will flock to gaze and wonder, and eventually be amused. The managers will reap their rewards from this morbid curiosity of the public, and though a few more physical wrecks will be added to the list, the offense to a right sense of humanity will be quickly forgotten. We had hoped we would be spared the exhibition this year but the city fathers doubtless have convincing reasons why the very commendable appeal of the representatives of what is best in cycling should go unheard. We reserve further comment till after the event.

THE following communication from Professor D. G. Brinton of the University of Pennsylvania recently to *Science* seems to need no comment beyond his own: "In the *Revue Scientifique* for April last Dr. Cesare Lombrosa, in an able discussion of the relative influence of heredity and environment, announced the conclusion that 'the influence of environment is potent enough to annihilate all ethnic traits.' "At the meeting of the German Anthropological Society, in August of this year, Professor Kollmann of Basel, in an address on the same subject, stated the dictum of science to be that 'the influence of heredity is far stronger than that of environment. The ethnic traits are immortal and persist, though the peoples who bear them may disappear from history.'

"These are two of the most eminent authorities among European anthropologists. As the traditional circus man said, 'You pays your money and you takes your choice.' "

RAILROAD EMPLOYEES AND FIRST AID TO THE INJURED.

THE value and the efficiency of the prompt application of aseptic dressings to wounds of every

character as employed during the recent conflict in Cuba has been shown with the conclusiveness of a demonstration. The ready inference is that in every large enterprise in which machinery is employed such a supply of aseptic dressings and bandages as will afford facilities for prompt aid in case of accident should be kept on hand. It must not be forgotten, however, that the success of the experiment in the army lay in the fact that every soldier was carefully instructed in the use of these appliances, and, therefore, employed them intelligently. It is not enough to have the material at hand, the knowledge of how to use it efficiently must also be supplied. In unskilled hands such things may do quite as much, perhaps even more, harm than good. Hence, we ask for the proper drilling of employees in their use.

In no department of civil life do these thoughts find such pertinent application as to the railroads of the country. Not only is there here a great army of employees in constant danger of more or less serious accident, but the great traveling public is equally concerned. The public has a right to demand, therefore, the most thorough system of human and mechanical safeguards against accident, and a thoroughly equipped and competent corps of men as well, to meet the accident emergencies when they arise. A conviction of the efficiency of this arrangement in the prevention of serious consequences from accidents as well as the saving of life should be sufficient to prompt the management of every railroad of the country to its immediate adoption. Every dictate of humanity, as well as financial interest, demands its enforcement.

A system of drilling railroad employees in the giving of first-aid has been adopted by certain of the English railroads, and is giving such good satisfaction that its acceptance by other roads is looked for in the near future. The benefits to be derived from this feature of employees' training are so patent that they need scarcely be insisted on. That at times life even would be saved there is no doubt. Then suffering would always be alleviated and certain complications of the after-course of the injury avoided by proper treatment at the beginning. Some one said during the late war that the prognosis of a wound not necessarily fatal because of its primary effect or its position was practically dependent on the first-dressing applied to it or its handling before it came into the surgeon's hands. The maxim is not so absolutely true of the lacerated wounds and crushing injuries of railroad accidents, but all of its application is not lost, and the first-handling, dressing, and moving of these patients remains of the greatest importance as regards the after-course of the injury. The length of time that a patient will be disabled depends to a great extent, in certain cases at least, on what is done, and especially what is *not done*, for him during the first hour or two after the accident. A meddlesome, though sympathetic humanity, sometimes makes sad mistakes in these cases. One of the most annoying items in the expense account of railroads is the damages for accidents and suffering and disability. There would seem to be in this expedient of training railroad employees in first-aid a most effective means of reducing this item of expenditure, and at the same time doing some very substantial good in the cause of humanity. Corporations are said to have no souls, but a distinguished American diagnostician has lent the weight of his authority as to the existence of a "pocket-book" nerve, and this much at least a corporation may be supposed to have. Under the circumstances, then, it may be confidently looked for that our own railroads will soon adopt this thoroughly practical and extremely humane method in the regular routine of railroad service.

Our railroad surgeons are, as a body, a select corps that contains some of our best practical surgeons, men whose experience in railroad accidents and whose interest in the patients that come into their hands under such circumstances, as well as their attention to the best interests of the companies, may be depended on to make the best use of the suggestion in this line, that comes to us so opportunely from our English railroad cousins.

ATYPICAL AMPUTATIONS OF THE FOOT.

WE call our readers' attention to the very interesting discussion of amputations of the foot held before the New York State Association of Railway Surgeons during its eighth annual meeting, the proceedings of which are briefly reported in this issue. Men of large surgical experience, which brings them especially in contact with crushing injuries of the foot, insist that for laboring men particularly, it is

the surgeon's plain duty to save every portion of tissue possible. There must be no such question as to which one of the classical amputations, Hays' or Lisfranc's, Mikulicz's, Symes', or Pirogoff's, seems to be indicated in a given case; every bit of tissue that can be saved must be saved, the foot treated as a whole and the bone sections made wherever sufficient soft tissue can be secured to cover the divided ends.

It is very probable that in the past the undue prominence given in text-books, and, may we add, in examination questions to these classical amputations of the foot have been a fruitful source of evil. The practical guiding principle now must be the same as that for the hand: save every bit of tissue possible, without regard to so-called types of amputations. When the art of constructing artificial limbs was less developed than it is at present there may have been some reason for selecting certain "points of election" in amputation. There is certainly no reason for such a proceeding on this score now.

One other bit of conservatism remains to be noted. It is that primary amputations are dropping into disfavor. It is hard to judge immediately after an accident how much tissue is likely to live. Where circulation seems to be absent at first, it is sometimes restored. The tendency of immediate amputation is to remove too much, so that the best surgeons advise delay until Nature makes clear how much tissue cannot live, and then remove only that. An important manifestation of this condition is the fact that surgeons do not longer consider it a reflection on their surgical skill to have to perform a second amputation. It is better, as Professor Wyeth says, to err on the side of conservatism in these days when anesthesia and aseptic surgery have deprived amputations of their terrors and dangers, and be compelled later to perform a second amputation, than to remove at first a single bit of tissue that might have made a laboring man's limb more useful to him.

THE "WOCHENSCHRIFT" IN A COMIC VEIN.

ON the occasion of the sixty-fifth anniversary of the foundation of the Aerztlichen Vereins (the Physicians' Association of Munich), the *Münchener medicinische Wochenschrift* issued a special "Scherznummer," or comic number. The *British Medical Journal* remarks that despite the generally accepted dictum that the Germans like the Scots "jock wee deeficulty," the number contains some really good fooling, though perhaps at times over elaborate. Any one familiar with the genial, whole-souled, pleasant ways of the Bavarians and of the profession at Munich, recognizes how distinct they are from the stolider practical North Germans. It is identically the difference between the Scot and the South Briton.

As might be expected this second issue of a comic number contains some excellent witticisms on medical things generally and some telling bits of pointed satire on the present most prominent features of German medical life. Every bit of this issue from cover to cover, from the announcement that the present number is gotten out without the *slightest* assistance from the usual distinguished collaborators, to the final advertisement is given over to fun. Some of the ads are excellent; cards of Dr. "Inserter," who is off on a consultation and will not keep his office hours, or is soon to be back, and of Dr. ——, who never disappoints his patients by being absent, etc., etc., culminating in a large display ad. of Dr. Trommler of Wiesbaden who, from the palace of the Shah of Persia announces that he has been summoned to attend H. R. H. and cannot say when he will be back. The South Germans would not seek long to find a personal application in the ranks of the ethical "regulars" whom some of these and especially the last "cap" (*large caps*) would fit. A special institute for the treatment of the Dramatic Neuroses, in which stage-struck maidens are warranted to be cured of their sad affliction, is announced apropos of the multifarious special sanatariums for chronic disease. Dr. Schlaukopf ("Slyboots") announces a new remedy for premature baldness due to excessive professional business, an unusual disease.

The offer of an enterprising firm to supply "artificial assistants" who will not exhibit the excessive reflex irritability of the natural article, who will not criticize their chiefs, and who will not have and hold opinions different from them, will surely commend itself to some of our fashionable and over busy medical men. They are furnished in specifications to suit every requirement and are not expensive. A transparent (guaranteed not to hinder the view of onlookers) surgical assistant capable of thorough

sterilization that calls "sponge" and "pad" ten times a minute costs $300, twenty times a minute, $325. A medical assistant (ordinary) costs but $25, if supplied with a special mechanism for the staining of bacilli, results always positive, the cost is $50. A gynecological assistant guaranteed to vaginofixate *every* uterus is worth $2.25, to vesicifixate every uterus, $4.75. As there are very large quantities of these on hand they may be had cheaper in lots. An assistant that will "antefix" only when necessary cost $50, one that will never (!) antefix or employ any other treatment for retroflexion costs $100, but there is only one sample in the market. No American applications for this are yet announced.

A new antisyphilitic remedy, Iodosanin, is guaranteed to be such an inalterable combination of iodin with albumin that no iodism or *any other effect* is to be looked for from it.

Among the announcements of new books we notice "A Strampfer." The most frequent injuries of bicycling—those of the pedestrian. "The Voluntary Procreation of Twins," by Paolo Firlefanzi, Firenze, 1898, and "The Morbid Sensibility of the English, particularly in reference to the naval advancement of other nations," by John Grudget, London, 1898.

Among the original articles is one on "The Artificial Production of Asexual Reproduction in Man (Homo Sapiens)." Tolstoï having shown in the "Kreutzer Sonata" that the present method of reproduction of the human species is horrible and utterly unsympathetic to the cultured soul, it is to be abolished. The product to accomplish this purpose is a concentrated extract of certain lower organisms that multiply by division and is called Tolstoiidin. Some experimental success is announced with the new remedy *of course*. "A Triumph of Modern Surgery," the removal of the stomach of a German student troubled with unquenchable thirst and the substitution of a pig's, followed later by the implantation of calf's brains, is by a distinguished fellow countryman, Professor Swindel of Mississippi College. All this is innocent fun, clean and pleasing, and not only gives the lie to the general impression among us that the German is lacking in humor, but ranks with the best of humorous conceptions.

Dr. Carl Beck Resigns.—Dr. Carl Beck announces that he has resigned his professorship at the New York School of Clinical Medicine.

ECHOES AND NEWS.

Dr. Herman Biggs Appointed Visiting Physician.—Dr. Herman M. Biggs has been appointed Visiting Physician to St. Vincent's Hospital, New York, in place of Dr. Joseph O'Dwyer, deceased.

Bubonic Plague in Russia.—The Russian government has enforced stringent measures for the suppression of the invasion of bubonic plague, which was recently reported at Samarcand. There is every reason to believe that the precautions taken will be effective.

Yellow Fever at Havana.—The report of the Marine Hospital Service for the week ending November 19th announces fifty cases of yellow fever, with six deaths. Nearly all the cases are in the military hospitals. No new cases have developed among Americans. Indications are that the disease will now continue to rapidly disappear.

Medical Calendars for 1899.—The Antikamnia Company is out with a calendar for the coming year from designs similar to the one issued a year ago. The artistic coloring is attractive, and prompts the suggestion that if the same amount of talent were expended in a direction productive of designs less revolting it would be more acceptable to the profession of the country.

Too Good a Man to Lose.—Donald Maclean, M.D., Major and Chief Surgeon of Division, on duty at the United States General Hospital, Fort Monroe, having expressed an inclination to resign and go back to his practice and his home in Detroit, has been very highly complimented upon the "excellent work performed by him at the hospital" and he is cordially invited to remain in the service. The doctor has the matter still under consideration.

Craig Colony Prize for Original Research in Epilepsy.—The President of the Board of Managers of Craig Colony offers a prize of $100 for the best contribution to the pathology and treatment of epilepsy, originality being the main condition. The prize is open to universal competition, but all manuscripts must be submitted in English. All papers will be passed upon by a committee to consist of three members of the New York Neurological Society, and the award will be made at the annual meeting of the Board of Managers of Craig Colony, October 10, 1899. Manuscripts should be sent to Dr. Frederick Peterson, 4 West Fiftieth street, New York City, on or before September 1, 1899.

Tachypodia, or "Hot Foot."—Péan of Paris was once called in the capacity of a physician to attend a duel. One of the adversaries was so cowardly that he ran away after the first shot, unhurt. The four seconds, the remaining combatant, and the doctor stood looking at each other with embarrassment and discomfiture, when Dr. Péan broke the silence by saying gravely, "I know the disease that has suddenly attacked this gentleman." And, taking out his pencil and paper, he drew up a report as follows:

"At the first shot Mr. X. was taken with a sudden attack of tachypodia that would not yield to treatment. The seconds, therefore, on consultation with the physician, stopped the duel."—*Press and Circular.*

The Harold Frederic Case Again.—Mrs. Mills, the Christian Scientist, who has been indicted for manslaughter in the Harold-Frederic case was on trial during the week. It is believed now that the charge against the woman Lyon, the member of Frederic's household, will be withdrawn. The evidence showed that the only treatment that Mrs. Mills ever pretended to furnish consisted in reading her book to herself! (there may be some consolation in this if it was the usual Christian-Science twaddle) in Mr. Frederic's room. Once she misquoted the Bible and Frederic made her get a copy of the Scriptures and turn to the passage in order to prove her mistake. We protest that the leaders of the new medicine should know their remedies better than to make errors in prescribing them.

Relief for Widows and Orphans of Medical Men.—The fifty-seventh annual statement of the New York Society for the Relief of Widows and Orphans of Medical Men has just been issued. From this it appears that the funds of the society now amount to $230,781.11, securely invested, and the income for 1897–'98 was $10,518.28. Under the present by-laws of the society the annuities allowed are: To the widow $400 a year, but for every ten dollars or multiple of ten of income an amount equal to fifty per cent. of said income shall be dededucted from the annuity. Each child entitled to relief is allowed $100 per annum, subject to the same conditions as a widow. During the past year the society has extended aid to seventeen widows and six children of deceased members. The members of the society now number 138. The initiation fee is $25, the annual dues $10.

The Insane of New York State.—The Empire State makes provision for a small army of insane, according to the annual report for the year 1897 of the Board of State Commissioners in Lunacy. The whole number of committed insane in the State, public and private, on September 30, 1897, was 21,683; in State hospitals, including the inmates of the Matteawan State Hospital (for insane criminals), 20,843; in licensed private institutions, 840. The report further shows the general receipts to be $4,603,623.57, as follows: Proceeds of State tax, $4,368,712.80; from private and other sources, $234,900.67. The disbursements for the year were $5,489,819.49; for salaries, etc., $3,893,175; for new buildings, $608,556.73; repairs, $596,635. The greatly increased expenditure is due to the Matteawan State Hospital coming into the system, the expenditures for the combined years of 1896 and 1897 being less than the income for those years.

New Mexico from an English Viewpoint.—The new *Medical Review of Reviews* for October has in its leading article the following observations regarding the climatic treatment of tuberculosis, and says of the crusade against consumption recently inaugurated in London, that it is essentially a step in the right direction. In America the problem has received much attention, and over six years ago a French commission of medico-scientists was sent on a tour of the world with the object of deciding upon the most favorable spot for the treatment of pulmonary diseases. Southern New Mexico was finally selected by the delegates of the Société Medicale as the most favorable site for a consumptive sanatorium, the combination of almost perpetual sunshine, warm winters, considerable elevation, and dry aseptic atmosphere found in the southern counties of New Mexico affording conditions more favorable than those of any other locality.

The New York State Pathological Laboratory.—The ninth annual report of the New York State Commission in Lunacy, just issued, contains a full report on the methods and principles underlying the pathological work of the State hospitals, in the central laboratory in New York City. According to the *Charities Review*, November, this report "should receive careful consideration, for it not only develops methods of investigation, but presents a new view of the pathology on insanity which by common admission is less perfectly understood than any form of disease afflicting the human race; and, if any hope of alleviating this curse is held out, in a better understanding of its nature and prevention, no possible means should be withheld, or no lack of encouragement, toward its thorough investigation." Dr. Van Gieson, the director of the institute, is clear and explicit in his demonstrations and deductions, and cannot well be misunderstood.

No Bubonic Plague in San Francisco.—It was reported by wire from San Francisco during the past week that a disease, said to be bubonic plague, had been discovered in Chinatown. The entire district in which it appeared was put under strict quarantine regulations, but later developments showed that the disease differs materially from the plague, and, therefore, the first alarm has subsided and the quarantine has been raised. On October 28th, the French bark "Duchesse Anne" arrived at San Francisco, seventy-four days from Hong Kong. The Captain had died August 20th and a sailor September 19th, under circumstances suggesting to the officers who brought the ship into port the presence of bubonic plague. Dr. Rosenau, of the Marine Hospital Service, now reports that there is no special reason to think that either death was caused by the plague. The vessel was disinfected throughout, the crew bathed, and their effects steamed or sterilized by formalin, and released from quarantine.

Scallops in Sewage Waters.—Fairhaven, Conn., has a large industry in shell-fish which is being injured by sewage pollution. So large have become the quantities of factory refuse and sewage that pour into the docks that pleasure boats no longer anchor at that point. When the New York Yacht Club gave this as a reason for omitting its annual visits, it was laughed at, but now the citizens appreciate that the yacht owners discovered a condition which is becoming serious. When the Vineyard steamers went out this summer there was a trail of stench in

their wake as they stirred the water with their paddles, which demonstrated how polluted the river is with filth. Business at the Fairhaven bath-houses has fallen off, for it is only at high tide, and often not then, that the water is sufficiently clear to tempt a bather. Scallops taken in the upper harbor have caused fever among those who have eaten them, and physicians have declared that the shell-fish which live in the mud on the shore are dangerous to eat on account of the sewage. Many are agreed that there are things more serious than high taxes, and a menace to the health of the community is not to be lightly regarded.

Medical Registration in Connecticut.—The Regular Examining Committee of the Connecticut Medical Society has held eight special examinations during the year 1898, the last one November 8th. Seventy-five applicants were examined, five of whom were for midwifery only, seventy for general practice. Of the seventy general practitioners thirty-nine were found qualified and twenty-one not qualified, and six were conditioned. Of the latter three were afterward reexamined and found qualified. The results of the last examination have not yet been reported to the State Board. One of the rejected midwives was also reexamined and passed. This committee and the two other official examining committees have held a conference and decided to apply to the State Board of Health to appoint the time and place for examinations only once in four months, namely, in March, July, and November; that all examinations shall be written in English; and that at least seventy-five per cent. of answers must be correct to enable a candidate to pass; but that "conditions" may be allowed, if there are not more than two branches under a marking of seventy-five, and the markings not less than fifty, with reexamination at the expiration of four months.

Meeting of the New York County Medical Society.—The President, Dr. S. D. Van der Poel, read his Inaugural Address on "Some Medical Aspects of Life Insurance." Dr. W. H. Thomson read a paper on "Cuban Malarial Fever." It will appear in full in our columns in a subsequent issue. Dr. Sturgis moved the appointment of a special committee of three to confer with similar committees from other medical bodies in the State for the purpose of taking such measures as were deemed necessary to secure legislation for the regulation of the abuse of medical charity at the dispensaries. Dr. Farr offered an amendment to refer the matter to the comitea minora. The amendment was carried. Dr. Valentine offered a motion directing that 2500 copies of the By-Laws of the Society be printed and distributed to the members with the notices of the next meeting. Dr. Philips moved the motion be laid on the table, because the By-Laws recently adopted must first be approved by the State Society, and there is the possibility of some of them not receiving that approval when the printed By-Laws would have to be replaced, and needless expense incurred. Some discussion followed. The motion to table the matter was lost and the original motion of Dr. Valentine passed. Regular meeting, November 28, 1898.

SPECIAL ARTICLES.

A REVIEW OF THE REPORT OF THE SURGEON-GENERAL OF THE UNITED STATES NAVY.

THE report of the Surgeon-General of the United States Navy for the year ending October 1, 1898, is an important one. Much that it contains has already appeared in our columns but the official form in which these facts are now presented lends renewed interest to them. It contains the medical records of naval warfare carried on by modern battle-ships, with the many interesting problems they involve. It will be read and referred with pride by Americans because it contains the record of how a magnificently organized service under the direction of American medical men was able to cope successfully with the untried problems in sanitation and hygiene that modern naval warfare had set them, and because the advances it chronicles in certain lines will doubtless prove the fruitful seed for still further improvement in naval medical matters, not alone for America but for the world.

The statement that the medical inspector of the North Atlantic Squadron is in a position to make is indeed worthy of note: "It is estimated from data at hand that the average daily loss of strength from disease, casualties in battle, and the ordinary injuries incident to ship-life was about 2.5 per cent. That such a result was obtained after long confinement on shipboard and sameness of diet, during a tropical summer, without awnings and with air-ports closed by battle-plates at night, must be regarded as remarkable." Quite as gratifying is the report of the surgeon of the marine battalion: "We had no deaths from disease or any seriously sick while on Cuban soil." It is noted just before that the rule "Drink no water, except distilled, until it has been boiled," was faithfully observed. We may manifestly be as proud of the medical features of the naval history of the Spanish War as we shall ever be of the gallant deeds of the navy in action.

Two special features of the report seem worthy of mention: the detailed account of the service rendered by the hospital ships, and the discussion of the inadequacy of hospital and surgical quarters on board the most recent men-of-war. The first constitutes the official data for the initial chapter on the history of hospital ships in warfare. One is tempted to wonder if the second feature mentioned, *viz.*, the criticism of the utter inadequacy of present arrangements for caring for the wounded during action, will have the desired effect upon naval architects and cause certain changes in plans that will remedy the defects so clearly pointed out.

A REVIEW OF THE REPORT OF THE SURGEON-GENERAL OF THE UNITED STATES ARMY.

THE WORK OF THE MEDICAL DEPARTMENT DURING THE SPANISH WAR.

UNDER the above title Surgeon-General Sternberg issues a summary of his report for the year ending June

30, 1898. Details are discussed that practically bring the report down to October 1, 1898, so that the document contains in brief the medical history of the military arm of the service during the war. We turn to it with certain feelings of misgiving, especially after having reviewed the report of the Surgeon-General of the Navy. A careful perusal of it shows, however, to our mind, that though less successful than the naval medical department in preserving the health of those under its care, the army medical department is not deserving of the blame that has been heaped upon it from certain quarters. Difficult problems were met with admirable skill, and as soon as proper organization could be effected, in what was necessarily at first a heterogeneous corps of men in new and untried conditions, good results were secured. The medical history of the Porto-Rican campaign, undertaken after proper organization and without the haste that characterized so much of the military management of the war, may be pointed to with pardonable pride as a notable chapter in the medical history of campaigning in hot climates.

The comparison that is inevitably suggested with the correspondingly naval department is manifestly unfair. The navy, even in time of peace, is much more nearly on a war footing than is the army. In fact, the main effort of Congress for years might seem to have been to keep the army as far from a war footing as possible, and the idea had been allowed to grow up that we would probably never again need a fighting army. "The very small proportion of medical officers," to quote the Surgeon-General, "having experience of a military character impaired the efficiency of the department at the outset, though many of the staff surgeons from civil life showed great aptitude for the service." It was not to be expected, however, that the new appointees should master the problems of an unfamiliar and difficult service at once. Many learned by erring, and error was costly, and when the experience had been gained the war was over.

It does not in the least disparage the magnificent work of the naval medical department to say that their splendid success in the matter of sanitation was due to training before the war under such circumstances as made the experience a counterpart of what fell to their lot in the war. This was not true, for the military medical men, living at frontier army posts or in garrison, seeing practically nothing of camp life, and that little with only small bodies of men. There were a few of the older men survivors of the Civil War, who had had camp experience with large bodies of men, but even that was not so useful with the modern ideas of hygiene and camp sanitation that the development of medicine in these last thirty-five years have introduced. The ideas gained from the annual eight to ten-days' camping of the State militia for drill were, as the event has proved, misleading in the extreme. The sanitary measures that served excellently for so short a time proved treacherous aids when the camps were to be occupied for months, and the trusted experience thus gained brought costly disappointment.

Despite the universal experience in the matter of infectious and intestinal diseases, where large numbers of men camp together, there was no proper realization of the dangers ahead except by a very few. It was impossible to impress the men with the necessity for the precautions so strenuously advised. Moreover, despite rigid medical examinations quite a number of men unsuitable for military duty found their way into the ranks. The reduction of the age of admission from twenty-one to eighteen years allowed the entrance into the army of a large number of unformed youths, of incomplete development, still attaining their growth, illy calculated to stand the hardships of camp life, and on whom it was difficult to impress the necessity for careful sanitary precautions. Added to this, unfortunately, was the fact that in certain cases camps were near cities, and inebriety and venereal disease came to add to the general unhealthiness, to lower resistive vitality even in the robust, and to seriously complicate the caring for the health of the troops.

So much in extenuation of the unfortunate results of camp life. A glance at the mortality statistics to October 1st shows that a great deal of exaggeration has been indulged in by a sensational daily press as to the actual death-rate. The death-rates for May and June, 46 and 70, were not in excess of those of the army in time of peace. In July the death-rate became somewhat higher than that of most well-cared for cities, 2.15 for the month, an annual death-rate of 25.80 per 1000 living. In August it became excessive, 4.08 for the month, and dropped under energetic sanitary measures to 2.45 for September. Statistics so discussed are notably untrustworthy. In one sense the comparison with city death-rate has no place here, since the death-rate was in selected cases of mostly young, strong, previously healthy men, and one is inclined to resent what looks like an attempt to gloss over actual losses. The total mortality of the army, however, from May to September inclusive, was 1715 deaths in an army of 167,168 men, scarcely more than one per cent., certainly not a high death-rate under the circumstances.

Three needs of the army medical service are brought out by the report: an increased medical corps which is formally demanded; an independent quartermaster service for the medical department, to obviate in the future the sad state of affairs that developed at some of the camps, and the lamentable conditions that prevailed at Santiago. Finally, there is the need of an efficient corps of trained nurses for field and hospital work.

One evil attendant upon our political system that undoubtedly had its effect in lowering the efficiency of the army medical service during the war does not, we think, receive due notice from the Surgeon-General. Political influence had unquestionably a large share in the appointment of certain medical men whose training and capabilities but illy fitted them for the positions they secured. This is a feature not liable to come into prominence for long years again and only brought out on this occasion because of the hurry of enlistment, but the public condemnation of it now should be so strong that at no future time will an administration dare to make political capital out of positions involving such serious responsibilities of life and health.

SANARELLI'S SERUM IN THE TREATMENT OF YELLOW FEVER.[1]

BY EUGENE WASDIN, M.D.,
SURGEON, U. S., M. H. S.

SIR:—Under your instructions of September 16, 1898, to proceed to New Orleans, La., and endeavor to obtain cases of yellow fever in which to use the serum, I called upon the authorities of the Charity Hospital on October 1st, and upon those in charge of Touro Infirmary in that city, and made known to them your earnest desire to have granted us the privilege of visiting cases of this disease in those institutions and of using the serum in those we thought suitable, this to be done only in consultation with the attending physician.

Professor Ernest Lewis, Vice-President of the Board of Regents of the Charity Hospital, after consultation with the Superintendent of the institution, informed me that it was thought best to refuse your request on the ground that a test of the same serum, presented to the institution by Professor Sanarelli, was then in process, and that the limited number of cases in hospital scarcely furnished material for this test.

The authorities at the Tuoro Infirmary, especially Dr. Loeber. promised every facility for the use of the serum, manifesting a lively interest in the subject. At the same time they informed me that a definitely marked case of yellow fever was very rare in their hospital; that the prevailing type was so poorly marked, so slightly developed, that often it was found necessary to rely upon the fact of the presence of the disease in the community for a diagnosis. All such cases were treated very tentatively, scarcely any medicine being demanded; and in these it was thought there could be no definite results gained from serum exhibition, since they invariably recovered. Such were the cases then on hand. But I was promised instant notification of any admission of a serious type, and preparations were made to respond to such calls.

Consultation with Surgeon Carter, senior surgeon at New Orleans, on October 8th, no suitable cases having been admitted to the Touro Infirmary, decided me to seek at Wilson, La., then generally infected, cases in which to test the prophylactic influence of the serum, and I proceeded there on that date. In this village of some 600 people I found the majority of the population sick or convalescent from a very mild type of fever, so much so that there seemed but little evidence of alarm. Through the courtesy of Acting Assistant Surgeon Bland, U. S. M. H. S., I saw a number of these cases, and he and other local physicians soon acquainted the people with the object of my visit. There was evidence of an indisposition to be "experimented" upon and many declined "the South-American treatment." Of those who had been exposed, and who would probably develop the disease, there were three or four who expressed a disposition to submit to the prophylaxis, but they invariably asked for a guarantee, and when this could not be given they hesitated between the unknown remedy and the light type of the disease.

However, two cases of tolerably well-developed yellow fever were found willing to receive the serum treatment, and these are detailed below. In the second case the use of the serum was followed by such annoying urticarious erythema, especially after the second injection, that the apprehensions of the family were aroused, and the fact of the new treatment having produced symptoms not seen in any other cases, and of so serious an appearance, immediately became the subject of general comment, and I quickly found the serum relieved of all sympathy, and invested with unknown possibilities for harm. I could get no consent to its prophylactic use.

At this time advices from Surgeon Carter directed me to Baton Rouge, La., where fever was then very rapidly spreading, and by invitation of Dr. C. McRea, I visited that city on October 12th. meeting and discussing with a large number of the physicians the probability of being able to use the serum. There was an expression of the liveliest interest in the subject and a disposition to render me aid, but a general conviction that they were scarcely warranted in advising the use of the serum in view of the very simple nature of the prevailing disease. In those cases developing more serious symptoms it was not deemed best to rely upon the serum. Hoping that cases might have occurred in the Touro Infirmary at New Orleans I returned to that city, and although there had been and were none suitable in that institution, I had the opportunity to see one at the United States Marine Hospital under the care of Dr. Faget. This is detailed below:

CASE I.—Robert Anderson; aged fifty years; a vigorous man, was taken sick at 10 P.M., October 8, 1898, with intense pain in back and limbs and a severe rigor, followed by high fever. When seen at 4 P.M. of the 9th, in consultation with Dr. Bland, the typical facies, pains, and commencing icterus left no doubt that he had succumbed to the infection to which he had been freely exposed. Thus far only a mild mercurial had been prescribed, and with his consent the antiamarylic serum was used. At 6.15 P.M., 10 c. c. of serum were injected into the connective tissues of the loin, pulse 84, temperature 101.6° F.; much congestion of vessels of the skin of the face. Temperature to be taken every two hours as nearly as practicable.

At 9 P.M., temperature 103.2°, pulse 86, more marked flushing of the face and some sweating; at 11 P.M., temperature 101.8°, pulse 84, semi-delirious and perspiring very freely, urine free; at 1 A.M., October 10th, temperature 101.4°, pulse 81, sleeping; at 3 A.M., temperature 101.1°, pulse 78, quiet; at 6 A.M., temperature 100.5°, pulse, 76, urine free; at 8 A.M., temperature 100°, pulse 66, urine free; at 9 A.M., 10 c. c. of serum were injected into the connective tissue of loin; at 10 A.M., temperature 100.6°, pulse 70, congestion of face; at 3.40 P.M., temperature 100.9°, pulse 78, sweating profusely; at 5.45 P.M., temperature 101.3°, pulse 78, urine free; at 7 P.M., temperature 101.4°, pulse

[1] Extract from report to the Supervising Surgeon-General, United States Marine-Hospital Service of tests made in Louisiana in the use of Professor Sanarelli's *serum antiamarylic* as a curative agent in yellow fever.

78; at 9.30 P.M., temperature 101.3°, pulse 74, restless; at 11 P.M., temperature 101.3°, pulse 72, slept one and one-half hours; at 1 A.M., October 11th, temperature 100.9°, pulse 74, urine free; at 3 A.M., temperature 100.9°, pulse 73, sleeping; at 5.20 A.M., temperature 101.4°, pulse 75, feeling weak; at 7.10 A.M., temperature 100°, pulse 70; at 9 A.M., temperature 99.8°, pulse 68, injected serum 8 c. c.; at 7 P.M., temperature 101.1°, pulse 78, urine free; at 10.15 P.M., temperature 100.7°, pulse 76, refused nourishment; at 3 A.M., October 12th, temperature 100.5°, pulse 76; at 6 A.M., temperature 100.5°, pulse 72, slept well; at 8 A.M., temperature 100°, pulse 75, urine free; at 5 P.M., temperature 100.4°, pulse 70; at 9 P.M., temperature 99.8°, pulse 68, bowels free; at 1 A.M., October 13th, temperature 99.3°, pulse 68, urine free; at 6 A.M., temperature 98.9°, pulse 62, takes food; at 6 P.M., temperature 100.1°, pulse 62, well; at 7 A.M., October 14th, temperature 98.6°, pulse 64; at 6 P.M., temperature 98.6°, pulse 68, discharged.

CASE II.—Fred. A., aged nineteen; a healthy young man, son of preceding patient, and much exposed to the infection, was taken sick at 6 P. M. of October 9, 1898, with a severe chill; pain in back and limbs, intense headache and nausea. He received a mustard bath and a mercurial with phenacetin. Temperature ranged from 101.3° to 103.1°, pulse 115.

At 9 A.M., 10th, he was given 12 c. c. of serum under the skin; temperature 102.7°, pulse 110; at 10 A.M., temperature 103.2°, pulse 110, and there was marked congestion of face, lips, ears, and body; at 12 M., temperature 103.2°, pulse 110; at 3:40 P.M., temperature 103.2°, pulse 110; at 6 P.M., temperature 102.5°, pulse 114, perspiring; at 8 P.M., temperature 102.2°, pulse 96; at 11 P.M., temperature 102°, pulse 98, slept well; at 1 A.M. October 11th, temperature 101.6°, pulse 96; at 3 A.M., temperature 101.3°, pulse 88; at 5 A.M., temperature 102°, pulse 98.

Complains of much dizziness; at 8.30 A.M. gave another 12 c. c. of serum under the skin, temperature 102.2° pulse 100; at 9.30, temperature 102.7°, pulse 100; at this hour the congestion of the face was extreme, and there was marked erythema; at 12 M., temperature 103.1°, pulse 105, perspiring and ptyalism; at 4.30 we were hastily summoned and found the patient suffering extremely from the urticarious rash, face puffed and congested, temperature 40°, pulse 110, urine abundant, copious saliva; at 6 P.M., temperature 103.2°, pulse 110, phenacetin given; at 8 P.M., temperature 101.8°, pulse 102, nausea; at 10 P.M., temperature 102.2°, pulse 104, and vomiting; at 12 M., temperature 103.7°, pulse 110, rash disappearing; at 2 A.M., October 12th, temperature 102.2°, pulse 105, urine scant; at 4.30 A.M., temperature 102.4°, pulse 105, slept well; at 6 A.M., temperature 102.4°, pulse 110; at 9 A.M., temperature 102.4°, pulse 97, perspiring; at 11 A.M., temperature, 102.5°, pulse 110; at 1.30 P.M., temperature 102°, pulse 106; at 5.30 P.M., temperature 102.8°, pulse 90, urine scant; at 7 P.M., temperature 102.6°, pulse 98; at 9 P.M., temperature 102.8°, pulse 98; at 12.30 A.M., October 13th, temperature 100.8°, pulse 88; at 4 A.M., temperature 100.2°, pulse 81, slept well; at 6 A.M., temperature 100.4, pulse 86; at 8 A.M., temperature 101.2°, pulse 83; at 10 A.M., temperature 101.6°, pulse 82; at 12 M., temperature 101.6°, pulse 85; at 2.30 P.M., temperature 101.6°, pulse 82; at 6 P.M., temperature 101.5°, pulse 83; at 8 P.M., temperature 101°, pulse 82, nauseated; at 12 M., temperature 100.2°, pulse 78; at 4.30 A.M., October 14th, temperature 99.6°, pulse 77; at 7 A.M., temperature 99.3°, pulse 76; at 9 A.M., temperature 99.2°, pulse 77; at 6 P.M., temperature 99.8°, pulse 80; at 10 P.M., October 15th, temperature 98.6°, pulse 78, discharged.

CASE III.—A. B., seaman, about thirty-five years of age, was admitted to the isolation ward at the United States Marine Hospital at New Orleans, October 13, 1898, and when seen in consultation with Dr. Faget was moribund from almost fatal suppression of urine. He was unconscious; there was hiccough and jactitation, small weak pulse, devoid of tone. In the hope that the serum would produce a renewal of the suppressed renal function, he was given 20 c. c. of serum under the skin, and although there was noticed a slight reaction in temperature from the subnormal, the kidneys did not react, and he died of a uremic seizure twelve hours after the administration.

One word as to the possibilities of this serum as outlined by Professor Sanarelli; because of its not being an antitoxin it does not tend to overcome the toxins of yellow fever produced in the system, and depends for its curative and prophylactic properties upon its germicidal influence. Hence, it is argued by Professor Sanarelli that its use will be absolutely negative in cases in which an amount of toxin has been produced sufficient to destroy life. These cases he does not attempt to treat, passing them by as out of the pale of serum influence. To those who have witnessed the successful struggle of many apparently beyond prognostic hope, there will at once arise the question of properly determining in such cases the fatal degree of intoxication which exists; therefore Professor Sanarelli advises and insists upon the early use of the serum, and thus the destruction of the organism before it has elaborated the fatal proportion of its toxin; such an exhibition of the serum invites the criticism that the mortality-rate must be that of selected cases, and, therefore, of diminished statistical value; and in an epidemic of mild type, such as the recrudescence of this fall in Louisiana, it would be contraindicated.

As to its influence in Case I. there was no doubt a very prompt reaction evidenced by the rise of temperature and pulse, and the great congestion of the face and skin of body. This was followed by a cessation of all pain in a few hours, and a fall of pulse and temperature to a point lower than before the administration. The second and third injections showed less marked reaction. The exhibition of the serum produced a free flow of non-albuminous urine, some ptyalism, and free perspiration. I am free to confess that the man would have done equally well with any ordinary medication.

In Case II. I am satisfied that the boy would have done as well without any medication. His mental and physical condition were not improved by its use. The

influence of the serum upon the vasoconstrictors was very pronounced, and caused mental and physical suffering. At first the urine was quite free, and always non-albuminous, but on the second day became more scant, yet the skin acted very freely. The rash was very general on trunk and limbs. The face, eyelids, and ears were swollen, puffed, and bluish in color, with slightly raised patches which resembled urticaria, the general surface being erythematous with scattered and intensely itchy plaques. The reaction in this case was excessive, the temperature rising to 104° F. The family requested us to desist from this treatment, and I did not object since the pulse was intermittent and dicrotic. As to the doses in these cases, I had never observed the action of the serum, and therefore refrained from the exhibition of the full dose directed by Professor Sanarelli, that of 20 c.c., and feel satisfied that the latter dose would have caused much alarm, and probably harm, in the second case reported. I regret that I have not been able to accomplish your purpose to have a full test made of this serum, but I realize that it was more necessary to arrive at a just conclusion of its merits, based on correct data, than to merely use it on uncertain cases. A more thorough test will be made at the earliest opportunity.

CORRESPONDENCE.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

THANKSGIVING WEEK AND DONATIONS TO HOSPITALS—THE CHARITY BALL—BANTI'S DISEASE—TREATMENT OF APPENDICITIS—ERYTHROMELALGIA—THE NUMBER OF SOLDIERS TREATED IN PHILADELPHIA—PERSONAL NOTES—HEALTH STATISTICS.

PHILADELPHIA, November 29, 1898.

WE seem to have had nothing but holidays lately, the Peace Jubilee celebration being scarcely over before Election and then Thanksgiving Day made another break in the regular routine of work.

Whether there is a small epidemic of a mild type of influenza or whatever may be the trouble, the peculiarly disagreeable weather of the last month has undoubtedly contributed to the vast amount of "colds" and so-called "grippe" cases which are now so prevalent here. The newspapers commented on the foolhardiness of some 20,000 people who braved the storm of Thanksgiving Day to sit two or three hours on wet, uncovered seats to witness the foot-ball game, and ventured the opinion that an appreciable increase in the amount of pneumonia, etc., would surely follow, a prediction which has been speedily verified.

Thanksgiving week was selected by many of the hospitals as donation days for receiving funds, clothing, and groceries to aid them in carrying on the large amount of charitable work in which they are engaged, Many of the smaller institutions depend almost entirely on such donations, for it seems to be a puzzling, but none the less true, fact that the smaller the institution, the greater the comparative amount of work done and yet the fewer bequests. Among Thanksgiving gifts was that of Mrs. Rebecca E. Shoemaker, who gave $5000 in five-per-cent. bonds to the Methodist Episcopal Hospital for the endowment of a free bed in honor of her mother, Mrs. Mary B. Clark. John B. Roach, the shipbuilder, gave the Chester Hospital a complete ambulance equipment, including the horse, harness, and ambulance. At the German Hospital more than $7000 was received, besides a large amount of groceries and clothing, and the Jefferson Maternity was the recipient of $500 and many gifts of food and clothing.

On January 23d the Annual Charity Ball is to be given, at which a large amount of money will probably be raised, which will be divided between the Pennsylvania Society to Protect Children from Cruelty, St. Chistopher's Hospital for Children, the Sanitarium Association of Philadelphia, and the Childrens' Department of the University Hospital. Among the members of the executive committee are the following physicians: Drs. Edward P. Davis, Hobart A. Hare, Barton C. Hirst, William Barton Hopkins, and John B. Shober.

At the College of Physicians last week, Dr. Henry Morris presented an interesting case of Banti's disease, which had occurred in a man aged twenty-one years. While a differential count of the blood showed practically no changes in the normal proportion, a numerical count of the erythrocytes showed a decrease to 1,400,000 with a percentage of hemoglobin of only twenty-seven. The spleen was enormously increased in size, the liver small, the urine normal except for an excess of urates, and there was no change in the lymphatics or in other organs. Dr. Hare said that the man had previously been under his care and that the blood then showed an increase in the number of lymphocytes and had a tendency to change, finally, however, assuming the appearance of pernicious anemia. Dr. Ashton, who had made the blood examinations, said that the blood had shown poikilocytes, normoblasts, megaloblasts, nucleated red cells, and other typical characteristics of pernicious anemia toward the last. Further discussion, which followed, served to bring out the difference of opinion held as to the classification of anemias and the unsatisfactory and inaccurate division.

Dr. H. B. Allyn outlined the "Medical Treatment of Appendicitis," in which he urged abstinence from food for twenty-four to forty-eight hours, gentle purging, and operative interference at the end of twenty-four hours if there is no improvement. He too, in common with most practitioners, advises against the use of opium, believing that it masks the symptoms, and only uses codein to take the edge off the pain when it is very severe.

Dr. S. Weir Mitchell and Dr. William G. Spiller reported an interesting case of erythromelalgia, only one other case having been reported with pathological changes since 1872, when the disease was first described. The signs of the disease were confined to the great toe, and upon amputation the nerves were found degenerated. Arteriosclerosis was present, and the bones of the toe were apparently enlarged.

The Hospital Committee of the National Relief Commission held a meeting last week at which representatives

of the various hospitals and Major D. C. Peyton, representing the Government, were present. It was determined that payment shall be made at the rate of $1 a day for each soldier treated, the Government settling the bills on that basis, and a vote of thanks was passed for the courteous treatment given to the hospitals by the Department as well as for the courtesy and kindness of Major Peyton. A report which has been prepared shows that 2860 soldiers were treated in this city up to November 1st, while the present number is about 3500, and the total amount due the hospitals is between $150,000 and $175,000. Pennsylvania, as a whole, has cared for about 5000 soldiers in her hospitals, of which about 100 have died, a mortality of 2 per cent.

Dr. George Lessmann, who was wounded at Santiago, is now ill with typhoid fever at the Lafayette Hotel. He served on the hospital-ship "Relief" and later in the division hospital at Ponce.

Dr. William H. Bell, assistant surgeon, U. S. Navy, has been ordered to Washington from the Naval Hospital on Gray's Ferry Road, Philadelphia.

J. J. Rosengarten, one of the trustees of the University of Pennsylvania, has presented an oil portrait of the late Dr. Pepper to the University Library, where it will be placed in the Pepper alcove.

Dr. A. O. J. Kelly has resigned the chair of adjunct-professor of pathology at the Philadelphia Polyclinic. No successor will be appointed, as it has been determined to abolish this chair.

The total number of deaths occurring in Philadelphia for the week ending November 26th, as reported at the Health Office, was 449, of which 121 occurred in children under five years of age. The number of new cases of contagious diseases was 247, reported as follows: Diphtheria, 129 cases, with 33 deaths; scarlet fever, 28 cases, with 1 death; typhoid fever, 90 cases, with 10 deaths.

MEDICAL MATTERS IN CINCINNATI.

[Special Correspondence of the MEDICAL NEWS.]

THE NEED OF A REFERENCE LIBRARY AT THE ACADEMY OF MEDICINE—PROSECUTIONS OF QUACKS—CINCINNATI HOSPITAL AFFAIRS.

CINCINNATI, November 28, 1898.

THE question of the erection of a fire-proof building for the exclusive use of the Academy of Medicine and for the formation of a library is one that periodically engages the attention of the profession in Cincinnati. The interest in the subject, however, has been spasmodic for the most part and productive of no results aside from the collection of a small building fund. The necessity and advantages of such a central club-house and library for the medical profession needs no argument; but in Cincinnati there seems to be an especial reason in our present library facilities for such centralization. In the first place the Academy of Medicine has been the recipient of numerous valuable library bequests, for the care of which it has no facilities; and secondly, our advantages in the direction of a reference library are very inferior. The Cincinnati Hospital library is large and of great value, but the hours during which it is open are so arranged that the busy doctor can rarely consult it without great inconvenience, a condition most unfavorable to scientific work. Furthermore, this library is peculiarly liable to destruction by fire, both because of its location in a general hospital, and of the presence of a large carriage and wheel factory not fifty feet distant. The City Library likewise contains a valuable collection of medical works which are also inaccessible in many ways. Should the Academy of Medicine construct a modern fire-proof building it would be possible to concentrate these valuable collections into a magnificent library that would be a credit to this great medical center. Many private libraries would certainly be donated to the Academy at once and others would be deposited for safe keeping, until the profession of Cincinnati would have reference facilities second to those of no other city.

The epidemic of smallpox which has been prevailing in Loveland, Ohio, is now under control after several weeks of rigid board-of-health regulations. The cases have all been mild, and have presented many difficulties in diagnosis, a confusion with chicken-pox being the chief feature. The epidemic nature of the form of coryza that has been prevailing for the past few weeks in this city cannot escape notice, and a bacterial origin seems to be its only explanation.

The meeting of the Research Society on November 10th was of unusual interest in the abundance of material which was presented. Dr. Langdon demonstrated a specimen of interpeduncular tumor of a confusing histologic structure. Dr. Rowe presented histologic specimens of the appendix vermiformis, gastric mucosa, and of cartilage, and Dr. Freiberg specimens of carcinoma of the bladder, sarcoma of the hard palate, and carcinomatous tissue taken at random in closing the wound after amputation of the breast.

The cases of illegal practice of medicine by non-registered physicians, as investigated and brought to trial by the State Board of Registration, will be heard in the courts during the second week in December. The prosecution of Dr. Campbell of the Fairmount Sanitarium and his followers in vitapathy will make up a goodly number of these cases. Certain female abortionists of the city will probably also be convicted. Recent evidence has been gained against Dr. France, the quack on "weakness in men," and against the "osteopathic" school in Toledo. Mrs. Harriet Evans, the Christian-Science healer, is under arrest both by the city authorities and the State Board of Registration, for the death of a certain McDonald, who died recently while under her care.

At a special meeting of the Cincinnati Hospital trustees, held on November 17th, the present medical staff of the institution was re-elected for another year, with the exception of the officers connected with the department of dentistry. In this department Dr. H. A. Smith will be succeeded by Dr. H. C. Matlack. The change was made because of the resignation of the former. Prior to the election the board discussed at length the present needs of the hospital. The necessity of an isolation ward, which has been apparent to the board for years, and which is no nearer being realized than it was when the subject was

first introduced, was gone over, as was that of the nurses' home and the needed additions to the branch hospital. A year ago plans were drawn for important additions to the hospital, and the board sent a committee to confer with the Legislature and ask for an appropriation to make the improvements, but the suggestion was turned down. The fact remains that these additions are necessary for the protection of the public, and they engross the attention of the board as deeply as ever. It was decided to sell the old surgical instruments now in use in the hospital amphitheater and to purchase new ones.

On November 30th, Dr. Horace J. Whitacre will begin a series of lectures on "The History of Medicine," at the Medical College of Ohio, which will be open to the profession. They will be profusely illustrated by lantern-slides.

MEDICAL MATTERS IN CHICAGO.

ACCESSIBILITY OF MEDICAL LITERATURE—DIAGNOSIS OF CHRONIC DIFFUSE PERITONITIS—TRANSPLANTATION OF THE SKIN—DR. NICHOLAS SENN'S EXPERIENCE IN SURGICAL DISEASES OF THE SPANISH-AMERICAN WAR—ENTERIC DISEASES OF ARMY CAMPS IN RELATION TO LIFE INSURANCE—EPIDEMIC CEREBROSPINAL MENINGITIS IN CHICAGO.

AT a meeting of the Chicago Medical Society, held November 9th, DR. EDWARD F. WELLS read a paper on "The Accessibility of Medical Literature." He said the extent of the medical literature of the world is known to but few; the volume of that which is being currently produced is appalling to the librarian; the inaccessibility of much of it is painfully evident to the practising physician. It is beyond the financial ability of the last-named individually to procure and care for it; it is a physical impossibility for him to read any but a very small fraction of it; even the titles he cannot compass. Nevertheless, it is the active medical practitioner for whom the greater portion of this printed matter has been prepared and to whom it is a real necessity. Public medical librarians have more than once complained that the vast stores of medical records which they have accumulated, and maintain at great expense, are not made use of to the extent which their importance would seem to demand and wonder why. The conditions under which the practising physician labors confine him closely to his residence or office; here he may have ample time for reading, but the time necessarily occupied in consulting a volume of the library, probably a long distance away, can only be spared at great inconvenience or actual loss. Under these circumstances the great majority of would-be students, after a few trials, adjudge the plan an impracticable one for them and attempt to meet their necessities in other ways. There are various methods, and thoroughly practicable ones, too, by which medical literature may be made more accessible, namely, the Denver plan of mutually accessible private libraries, journal, and new-book clubs; the combined circulating and reference public library. He believes the scope and usefulness of a public medical library may be extended by allowing the books to be removed, for a short time, from the library building. The physician desiring to use the library in this manner should be required to make formal application for the privilege. By this plan, properly elaborated as to detail, every physician's office may, with proper restrictions, be made practically a branch of the reading-room of the library.

At a meeting of the Chicago Academy of Medicine, held November 11th, DR. FRANK X. WALLS read a paper on "Diagnosis of Chronic Diffuse Peritonitis," in which he said that much discussion has arisen as to the existence of a simple, non-tubercular, exudative peritonitis, though cases have been described as occurring more frequently in children by Strümpell, Henoch, Baginsky, Filatoff, and others. There is no reason *a priori* why a chronic, simple inflammation of the peritoneum should be denied, even though the condition is admitted to be infrequent. The disease develops insidiously, often after a history of trauma or exposure. Pain and abdominal distention are the most prominent symptoms, directing attention to the peritoneum. The differential diagnosis should exclude tubercular or cancerous peritonitis and ascites. Osler and Baginsky have reported each a case of chronic peritonitis in which tubercle bacilli were demonstrated in the lesions during the early history of the disease, but later, when the case came to autopsy, careful search for bacilli or characteristic tubercular processes by competent pathologists was negative. The deduction is warranted that the absence of bacilli or tubercles in a chronic peritonitis is no indication that the morbid condition was not initiated by the bacillus of tuberculosis, and also that autopsical negative findings are quite consistent with a previous tubercular infection. He reported an interesting case of the disease illustrating the sign of Thomayer.

At the same meeting Dr. L. Loeb read a paper on "Transplantation of the Skin and the Origin of Pigment of the Skin." Experiments were made on the ears of guinea-pigs. White skin was put on a wound in black skin, and black skin on a wound in white skin. The experiments prove that the pigment of the black skin is not carried into the epithelium through cells from the connective tissue, but that it has its origin in the metabolic changes of the epithelial cells alone.

At a joint meeting of the Chicago Medical Examiners' Association and the Chicago Medical Society, held November 16, 1898, Dr. Nicholas Senn spoke on the "Surgical Diseases of the Late Spanish-American War," with a view of estimating the war risk of life-insurance companies. He said that the late war had been characterized by decisiveness and by intense patriotism on the part of the troops; while he had reason to believe that the opposite mental conditions prevailed in the Spanish camps. The American troops had to deal with an impoverished, half-starved, discouraged enemy, which he thinks accounted largely for the easy victories and the short duration of the war. He attributes the repeated victories on land and sea more to the soldiers than to any special military genius displayed by any of the commanders. The loss of life on the battle-field, or as the immediate or remote effects of wounds, did not exceed 400. The loss in battle in Cuba was 267. A number of the most seri-

ously wounded have died since. In Porto Rico, where there were four skirmishes, the number killed did not exceed 20, and the number of wounded was not about 40. The Spaniards were armed with Mauser rifles exclusively. He had abundant opportunity to compare the injuries inflicted with the Krag-Jörgensen rifle and the Mauser rifle, and the wounds differed very little. If any, the Mauser rifle was a more humane one, owing to the smaller caliber of the missile. The stopping power of these guns has been overestimated as every hunter of large experience knows. In examining from 1200 to 1300 of the wounded he was astonished at the limited zone of contusion of the soft parts, which explains very satisfactorily the readiness with which these wounds healed, provided no infection occurred. There is a zone of comminution from both weapons at a range of about 500 yards. He found in two cases among the Spanish prisoners shot with the Krag-Jörgensen rifle, gunshot wounds of the femur at the junction of the lower with the middle third; in both instances infection had occurred. The patients suffered from progressive sepsis; amputation was indicated and promptly performed in a most primitive way, outside of the Spanish column, in the hot, broiling sun, there being no way of effecting disinfection of the dressings, instruments, etc., except with a kettle of questionable cleanliness. Heat was resorted to exclusively in effecting sterilization. At a certain range he is satisfied that bullets from both of these rifles will inflict injuries to the long bones and produce more or less comminution. In one instance a young soldier was shot through the tibia two inches above the ankle-joint with a Krag-Jörgensen rifle and the hole through the bone resembled very much one made with an ordinary drill. The shot was fired at a range of a thousand yards, but there was no comminution whatever.

The value of the first-aid dressing cannot be overestimated. In Cuba the military surgeons were hampered in their work by lack of dressing material; also, imperfect ambulance facilities. Hundreds were wounded and nearly 300 were killed in three days; consequently the medical department was taxed to its utmost capacity in taking care of the wounded with the limited facilities at its command. In this war, with an insufficient number of medical officers at the front as shown at the time, men occasionally had to wait for hours, and in a number of instances more than a day before they were picked up and the first dressing applied. It was in those cases that suppuration most frequently occurred. In Porto Rico it was different. General Miles, who had command of the invading army, took every precaution looking to the welfare and the efficiency of the medical service. He felt the need of a medical adviser and often consulted him. The reverse was the case in Cuba. In Porto Rico affairs were conducted near the fighting line. The ambulance corps was in readiness and ambulances were to be had in abundance. The moment a man was shot he was carried to the rear and a first-aid dressing, always on hand, was properly applied, and of about forty cases of all the wounded brought back from Porto Rico on the hospital-ship "Relief," there were only two cases of suppuration, a remarkably small percentage, proving conclusively the value of a timely, efficient, first-aid dressing in preventing wound infection.

The small-caliber bullet hardly ever, if ever, carries with it pieces of clothing or any other infectious substance. The bullet itself is practically aseptic. In the majority of cases where wound infection occurred it was due to the subsequent too frequent change of dressings and unjustifiable attempts to probe the track of the bullet. It is unjustifiable, certainly unscientific, to resort on the battle-field to the probe as an instrument of diagnosis.

He has seen a number of cases of gunshot wounds of the abdomen recover without laparotomy. He believes he was the first one to place himself on record years ago, that a man shot through the abdomen from before backward on a level with the umbilicus or above, has a fair chance of recovery without operative interference. It is in those cases that the intestinal canal not infrequently escapes injury. In four out of sixteen experiments, made for the special purpose, careful, subsequent examination of the contents of the abdomen showed absence of visceral lesions which would have demanded a laparotomy. Such are the cases that recovered during the late war. In almost every instance the bullet wound was on a level with or above the umbilicus. The reverse was the case when the bullet traversed the abdominal wall below the umbilical level, and particularly if it passed through the abdomen transversely or obliquely.

There is one part of the surgical treatment of the wounded which was imperfectly performed, *viz.*, the want of early immobilization of fractured limbs. At the front he could find no plaster of Paris, which should always accompany a fighting army. At Siboney he was furnished with plaster of Paris, but it would not set. Plaster-of-Paris dressings, therefore, the sheet anchor of the military surgeon in the treatment of compound fractures, were lacking or imperfect. Surgeons had to do the next best thing—search for splint material, and fortunately, in Cuba, Nature was very kind to the military surgeon in this respect. The supply of wire splints was limited, but the cocoa palm was abundant, and in the sheath of the cocoa-palm leaf is found a most excellent material, in that it is somewhat plastic and porous; it was utilized to great advantage in the immobilization of gunshot fractures.

In contrast to the experience in the Civil War he found in the Spanish-American War that penetrating gunshot wounds of the knee-joint, of the hip-joint, and of the larger joints, recovered promptly, never proved fatal in the absence of wound complications. The men recovered, as a rule, with useful joints.

When he came to Montauk, where he was on duty for four weeks, he had an excellent opportunity to study the conditions of the returned soldiers, of which there has been so much said, particularly in the yellow press. At this camp he did surgery of a peculiar kind, and his experience there perhaps would be of more value to life-insurance companies and their medical examiners than what he said in reference to gunshot wounds. When the

army of Cuba returned, it was an army of patients, not of soldiers. They were all anemic, emaciated, and, with few exceptions, brought with them, as an undesirable inheritance, malarial intoxication. In almost every instance physical examination showed enlargement of the spleen. As the result of infective substances in the gastro-intestinal canal, he met at Montauk with numerous instances of surgical affections directly traceable to intestinal infection. He found a number of instances of enormous ischiorectal abscess, anal fistula, hemorrhoids, ulceration of the rectum, varicocele, and hernia. The prevalence of peri-anal and para-rectal suppurative processes is justly attributable to antecedent attacks of catarrhal proctitis, from which almost every one of the soldiers suffered at one time or another. It was at Montauk where he believes he was of most service to the troops, being placed in charge of the surgical department of an enormous national camp filled with thousands of sick soldiers.

He is positive, as far as the Illinois troops are concerned, that not a single private was sent to the front with hernia. Exceptions were made in the case of officers. Speaking of privates, the examination of them was so rigid that he was sure not a single hernia escaped attention, and yet some of the men are coming back with hernias. He was astonished at Montauk at the number of cases of hernia that the soldiers claimed to have contracted during their short service. What is the cause? The fact remains, that the men were never exposed to forced marches; the longest march in Cuba was from Siboney to the front at Santiago, a distance of nine miles. The prevalence of hernia in the returning soldiers must he ascribed, therefore, to the debilitating effects of the campaign and of disease; to the relaxing influence of the climate; to the disappearance of fat in the region of the inguinal canal. In the near future many of the mustered-out men will apply for pensions for the defect he has just mentioned. In an examination of ten thousand men at Camp Tanner, he found varicocele with great frequency in men of military age, as from eighteen to forty-five. At least twenty-five per cent. of the applicants for military service were affected with varicocele. In not more than two hundred out of the ten thousand did the enthusiastic and ambitious recruits acknowledge that they experienced any inconvenience from this affection. He, therefore, believed at that time that varicocele of moderate size, without symptoms, should not disqualify an otherwise well-built man for military service. He has every reason now to believe that the position he took then was the correct one, judging from his observations of the men who are returning.

DR. WILLIAM CUTHBERTSON read a paper on "The Enteric Diseases of the Army Camp in Their Relation to Life Insurance." He said it was the province of the life-insurance examiner not only to pass upon the present condition of the applicant's health; the probability of his dying in a short time from some acute disease, but also as to the probable effect on his life expectancy of any disease the applicant might have had. Camp diarrhea and dysentery are two of the most important of these diseases. The history of all armies operating in all parts of the world shows that camp diarrhea, typhoid fever, and dysentery are the most prevalent disorders. They exist to a greater extent, however, in campaigns in very warm or hot countries. The records of our Civil War show that diarrhea and dysentery were more frequent and fatal in the Central region than in the Atlantic and Pacific regions. On the contrary, in civil life intestinal inflammation is more prevalent in the Northern, Middle, and Western States, than in the Southern. During the recent Spanish-American War, while his regiment, the First Cavalry, was stationed in Illinois, the universal intestinal complaint was constipation; while almost immediately after their arrival at Chickamauga Park, Georgia, diarrhea began. This was so invariably the case that whenever a batch of recruits arrived from home, one would hear a member of the Hospital Corps remark, "There comes more diarrhea." The summer months of June, July, and August are those in which the greatest number of cases occur, and the mortality is the highest.

Enteric fever proved to be the scourge of the late Spanish-American War. The greatest mortality did not occur where expected, namely, on a foreign soil, from bullet wounds and yellow fever, but right at home in large camps, where every appointment should have been up-to-date, with every appliance modern sanitary science could devise. This deplorable result can be directly chargeable to the Medical Department of the Regular Army.

A wet soil, damp weather, the presence of large quantities of fecal and decomposing matter, and large numbers of men congregated together, furnish a beautiful combination of circumstances for the development of this disease. The presence of hucksters in the camp seemed to be responsible for the spread of typhoid fever in no small degree. The eatables which they hawked from regiment to regiment, became infected, and in this way was the disease transmitted. At Camp Thomas, Georgia, part of the water-supply was taken from the Chickamauga River, the intake pipe being situated only a few yards above the point where one of the large camp drains emptied into the river. The rest of the water-supply of this camp was obtained from springs and wells located in different parts of the grounds, which soon became infected from the leakage through the already infected soil. Finally, the men themselves invited an attack of typhoid fever by their mode of living. They slept on the ground, very often four in a tent, the tent poorly ventilated, and very frequently closed up all day. They would do this in spite of all orders and warnings. They would buy food from hucksters and drink river water, in defiance of all advice to the contrary. Not only the water, but the soil, and even the air of these large camps were undoubtedly infected with the typhoid bacillus.

The average mortality of selected risks—and all the soldiers in the late war could be classified as selected risks—is four or five per one thousand per annum. The latest returns show the mortality of the American Army to have been ten per one thousand for a period of six months, or four to five times greater than it should be. These percentages should settle definitely the question of

the desirability of the soldier as an insurance risk in the negative. Our woods and plains teem with good material for soldiers; we have an unlimited number of first-class medical men and sanitarians. When the army is reorganized it will be put in such a condition that during any future campaigns the life and health of the soldier will be as well protected as if he were under his own vine and fig-tree.

In the October "Bulletin" of the Department of Health, City of Chicago, recently issued, there appears an abstract of a very elaborate and exhaustive report by Dr. William J. Class, medical inspector, on the recent appearance of cerebrospinal fever (epidemic cerebrospinal meningitis of Stillé) in Chicago, 1898. The full report will appear *in extenso* in the annual report of the Commissioner of Health. Thirty-eight cases are cited which occurred under the observation of a number of skilled diagnosticians. All uncertain and doubtful cases were eliminated. We give a condensation of some of the important features of the cases, not less as a timely contribution to the study of a disease which may yet claim the serious attention of sanitarians and health authorities in this country, than as an index of the quality of the work done and the interest and ability displayed by the members of the medical staff of the Chicago Department of Health.

Although the symptomatology of cerebrospinal fever has been exhaustively treated in descriptions of epidemics occurring elsewhere, yet as almost every epidemic offers some distinctive feature, a closer and more careful consideration of the symptoms met with in these thirty-eight cases may be useful. Headache was found present in all of them where a complete history could be obtained, it affecting the entire head, being most severe in the occipital region. In four cases severe backache caused the greatest distress to the patient. In three instances abdominal pain was noted; in two cases there was hyperesthesia of the greater part of the body, so intense in one case that the slightest touch would throw the patient into convulsions. In one case the pain was chiefly referred to the chest, without there being any objective signs of any diseased condition in the thoracic viscera; another patient complained of boring pain in the bones, resembling that of osteomyelitis. Tenderness in iliac and splenic areas was noticed in one case. Attempted flexion of the head usually caused pain. Chills, as an initial symptom, occurred in seven out of the thirty-eight cases. In two cases the patients had complained of a chilly sensation several days before the onset of the acute symptoms. In one case a chill, lasting thirty minutes, occurred on the third day of the disease. The majority of the cases beginning with a chill ended fatally. Vomiting, one of the most constant initial symptoms of the disease, occurred in twenty-six cases at the onset, while in four cases it occurred during the first days of the disease. The tongue was coated in the majority of cases. Trembling of the tongue was noted often on its being protruded. This is considered of great diagnostic value. In six cases diarrhea occurred; in nine constipation. The writer emphasized the symptom of difficulty in swallowing. It was noticed in six cases, each of which ended fatally. It must, therefore, be considered as a grave omen in the prognosis. Herpes labialis was the most prominent skin lesion, and was present in twelve cases. One case showed a papular eruption; another a reddish-brown macular eruption. Petechial patches were noted once. Tache cerebri was found in a number of the cases. In thirty cases there was retraction of the head, varying in degree. The eyes were more or less affected in a large proportion of cases. The ocular manifestations varied from a simple congestion of the conjunctiva, which occurred in six cases, to trophoneurotic ulceration of the cornea and destruction of the eye in one. In two there was purulent conjunctivitis. One showed on ophthalmoscopic examination a cupped disc. The pupillary symptoms were not constant; in five cases they were dilated; in two of these the dilatation was more marked in one eye than in the other; they were contracted in four. Dilated in one eye and contracted in the other in one case. Nystagmus was observed five times; paralysis of the muscles of the eyeball once, the eye remaining fixed. Strabismus occurred in four cases, in one instance being transitory. Paresis of the right external rectus was noted once. In one case there was absolute blindness extending over a considerable period of time without any apparent lesion to account for it. Puffiness of the eyelids occurred in two of the cases, and diplopia once. Photophobia was observed in a comparatively small number. In twenty cases the patients became delirious; robust young men violently so. In some instances hallucinations were present resembling those of delirium tremens. In two cases the mental faculties were seriously impaired after recovery from the acute symptoms had taken place. Paralysis of all of the voluntary muscles of the body was observed in two cases shortly before death. Paralysis of the facial muscles on the left side was also noted in two instances, and paralysis of the right hand once. In two cases contractions of the muscles occurred. In three there was muscular twitching, chiefly in the extremities. Tremor of the hands was observed in two instances. Involuntary evacuations of urine and feces during the course of the disease was noted in six of the cases. Subsultus tendinum was found twice. Convulsions were rare in adults, but frequently at the onset in children.

The state of the reflexes was not constant; as a rule, they were not perceptibly altered. In five cases the knee-jerk was exaggerated, and in three it was diminished. In one it was entirely absent, while in another it was absent on one side and increased on the other. The cremasteric reflex was absent in one case; increased tricipital reflex was noted in one instance. The causation of this variation in the reflex action has never been satisfactorily explained.

In twelve cases there was retraction of the abdominal walls, producing the condition described as "boat-shaped." Tympanites was present in three cases, and in one of these the abdomen was markedly tender. Splenic enlargement was observed in four cases. The liver was found enlarged in two instances. Gurgling in the iliac fossæ was elicited in two cases examined for this rather unreliable symptom.

Joint affections were encountered in five cases, varying in severity. The joints chiefly affected were the wrists, and next the ankle-joints. A careful blood analysis was made only in a limited number of cases; in all instances leucocytosis was found to exist. In one case pigmented leucocytes were found, together with a few extra-corpuscular bodies containing pigment. Widal's test was generally negative, although in one or two instances a partial reaction was noted. In seven of the cases the urine was albuminous; in one sugar as well was present. An excess of earthy phosphates was noted once. In none of the cases where albumin was discovered were casts found. Cylindroids were found in one case, the urine being otherwise normal.

True lobar pneumonia, as a coincident lesion, was noted in two instances; in both, however, the symptoms of meningitis predominated. Other symptoms were found in five cases, chiefly diminished resonance, which could not be properly explained; this condition was encountered in three cases. A blowing systolic murmur at the apex beat occurred in two cases. Cheyne-Stokes respiration was noticed in one case during the course of the disease, and in several instances shortly before dissolution took place.

The pulse and temperature curves presented the same variations as those described by Wunderlich. The initial symptoms were accompanied by a rise in temperature; this rarely exceeded 102° F. during the first forty-eight hours. In some cases this initial rise was followed by a period of three or four days during which the temperature would remain normal, after which there would be another rise. An ante-mortem rise in temperature was noted in three cases, in one of which the axillary temperature was 109° F. There was no relation between the temperature and the pulse. The characteristic feature of the pulse in epidemic meningitis is its slowness, although this rule is not constant. In one instance the patient had a temperature of 105° F.; the pulse at the same time was only 80. Within a few hours previous to death there was, as a rule, a great increase in the frequency of the pulse, even in those cases where it had been slow during the course of the disease. In volume the pulse was usually full; a dicrotic pulse was seldom met with.

Ear troubles, on which special stress has been laid by previous observers, were only noticed in a small number of cases. Some deafness was encountered comparatively often, and in one or two instances suppurative middle-ear disease, but aside from these there was an almost complete absence of aural complications. Lesions of the nasal and pharyngeal mucous membranes were also infrequent in their severe forms, although redness or a slight catarrhal condition occurred in a number of the cases. Epistaxis was found in one instance. Bulging of the fontanels occurred, as a rule, in younger children, in one case the intracerebral accumulation of fluid causing a considerable increase in the circumference of the skull. In protracted cases convalescence usually found the patients greatly emaciated and exhausted, from which they recovered very slowly, some of the young children, in fact, succumbing from inanition after the acute symptoms had subsided.

The average duration of the cases with recovery was four weeks. Some ran a much shorter course, recovery taking place within two weeks, while in others it was delayed from six to eight weeks. Relapses were noted in several instances. In the fatal cases death usually took place within two weeks. Cases of "meningitis cerebrospinal siderans," in which death takes place within a few hours or days, were very rare during the epidemic. Of the thirty-eight cases described, twenty-five ended fatally, a mortality of sixty-five per cent. This figure is far from correct when applied to the entire number of cases in the city, as meningitis is not properly a "hospital disease," comparatively few cases being sent to the hospitals, and these only where the disease was severe. This explains the apparently excessive mortality, as the cases were almost exclusively taken from hospital records. Mild cases not requiring hospital care were very frequent, and if these were averaged up with the more severe cases the total mortality would probably not exceed twenty per cent.

During the Chicago epidemic fifty-one houses where cases of meningitis had occurred were inspected. In twenty-one of the houses or their surroundings unsanitary conditions were found; in some instances very bad. In one house where a fatal case occurred nine families were living in a ten-room house which was littered with filth of every description. Defective plumbing was discovered in a number of instances, and remedied through the Health Department. In eighteen of the houses the sanitary condition was fair, while twelve were in a good condition. The majority of the cases occurred in the poorer quarters, inhabited chiefly by foreigners.

From a consideration of the present knowledge of epidemic meningitis the writer arrives at the following conclusions:

1. Epidemic cerebrospinal meningitis is to be classed among the contagious diseases, belonging to the same category as phthisis pulmonalis.

2. Unsanitary conditions exert great influence in affording a proper nidus for the growth of the germs of this disease.

3. Health authorities should receive notice of the occurrence of a case of this disease, in order that sanitary defects may be remedied.

4. Persons afflicted with this disease should, whenever possible, be isolated, and all evacuations should be rendered sterile by the use of antiseptics.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

INJECTION OF GELATIN SOLUTIONS TO CURE ANEURISMS—DIVISION OF CARDIAC ADHESIONS—RESECTION OF THE CERVICAL SYMPATHETIC FOR EXOPHTHALMIC GOITER—CANCER OF THE PELVIC COLON—COMPRESSION OF THE HEART FOR SYNCOPE—POISONING FROM SALICYLATE OF SODA—SCURVY FROM STERILIZED MILK—TWELFTH FRENCH CONGRESS OF SURGERY.

AT the Academy of Medicine October 31st, LABORDE said that the fatal results which have sometimes followed the injection of solutions of gelatin for the cure of

aneurism may be due to the presence in the solution of little solid particles, which, acting as foreign bodies in the circulation have excited coagulation in different vessels. This has been accomplished experimentally in animals when the gelatinous solution has been injected into a vein. One ought to use extreme care to obtain the purest possible gelatin and to make the injections either into the aneurism itself or into its immediate vicinity.

LANCEREAUX denied the presence of solid particles in gelatinous solutions, and said that this theory was unsupported by evidence. If the solutions are injected subcutaneously they are not introduced immediately into the veins but are absorbed by the lymphatics and passed through them into the blood without exciting coagulation. In order that blood should coagulate two things are necessary, viz., that the wall of the vessel in which it is contained should be imperfect, and second, that the flow of blood should be sluggish. These two conditions are realized in the aneurismal sac but not elsewhere in the circulatory apparatus. There is every reason to believe, therefore, that the coagulation is confined to the aneurism.

At the Surgical Society, October 26th, DELORME advocated the division or the destruction of adhesions between the heart and pericardium when such adhesions cause grave symptoms. Numerous autopsies show that the separation of such adhesions without damage to the cardiac muscle may be easily accomplished provided they have not existed too long. Autopsies upon old people where the adhesions have been in existence for many years show that under certain circumstances their division would be practically impossible, but if the adhesions are well localized, even though old, they might be safely divided. If the clinical signs show beyond a doubt that adhesions have formed between the heart and pericardium, a linear pericardotomy is indicated. An incision 2½ to 3 inches in length is made at the level of the fifth costal cartilage, and the pericardium is opened horizontally a little above its attachment to the diaphragm. The superior margin of the wound being lifted, an attempt is first made to free the right side of the heart from adhesions. If they are everywhere present but are capable of easy division a second linear incision may be made in the fourth interspace, and the fourth section of the costal cartilage resected if necessary, with possibly a portion of the third. Adhesions which are not general should be sought out with the finger and divided with blunt-pointed scissors. If the adhesions are too extensive and firm to allow of separation, the pericardium should be divided on a level with the diaphragmatic attachment clear to the apex of the heart. Even this slight operation will be found of great benefit.

TERRIER said that in several operations upon the heart, incisions far greater than that proposed by Delorme had been made without difficulty. Even a portion of the sternum has been sacrificed. In conclusion he said that he believed that one need not hesitate to make an incision of whatever length is necessary to meet the conditions.

GERARD-MARCHANT spoke of partial or total resection of the cervical sympathetic nerve for exophthalmic goiter. He reported seven cases of his own and thirty of other surgeons. It is by no means easy to find the cervical sympathetic. Three ways of doing this have been proposed; one anterior to the sternomastoid muscle, one through this muscle, and a third posterior to it. The last is the best. By this route the jugular is exposed and plenty of room is easily obtained by simply dividing the superficial fascia up to the mastoid process if necessary. The common carotid and the pneumogastric come into view, or if not they must be found before search is made for the sympathetic nerve. The superior cervical ganglion is usually found without difficulty and from it the nerve cords may be traced downward and removed. Statistics seem to show that a partial resection of the cervical sympathetic gives equally as good or even better results than a total resection. Of the thirty published cases, twenty patients were benefited by operation. The speaker himself had two complete cures, two improvements, two failures, and one death. Taking the whole thirty-seven cases together there were five deaths in a short time and three at a later period. Four of the early deaths were caused by influenza-pneumonia, pulmonary congestion, syncope, and erysipelas. The fifth occurred in an alcoholic subject on the third day after operation. It was preceded by febrile symptoms and an extreme amount of agitation. In view of these facts, the operation in itself cannot be considered a particularly dangerous one, and when it is taken in account that the disease is in itself fatal sooner or later, and is associated with very grave complications, such as disturbances of the vision, one ought to advise operation when medical treatment has failed. Three operations have been practised for exophthalmic goiter: exothyropexy, devised by Poncet, and now given up by him; thyroidectomy, which according to the published statistics, has given few cures and a considerable number of sudden deaths from operation, and partial resection of the cervical sympathetic which, under these circumstances, is a valuable method of treatment.

At the session of November 2nd, QUENU discussed cancer of the pelvic colon. He divided this portion of the large intestine into three parts: the ileopelvic colon, which is relatively immovable, the sigmoid flexure properly so called, and the rectosigmoidal. Cancer in this third portion may be touched with the finger, even though five or six inches above the anus. The symptoms it produces are practically those of cancer of the rectum. Cancer of the ileopelvic colon gives an iliac tumor which may easily be mistaken for inflammatory thickening, by no means uncommon in this situation. Inflammatory thickening is smooth; that due to the neoplasm is uneven. Owing to the mobility of the sigmoid flexure cancer in this situation gives rise to a variety of symptoms. Abdominal palpation is pretty accurate in very thin patients. In stout ones such a tumor may escape the examining fingers. If the case is a doubtful one, it is better to resort to an exploratory operation rather than by delay to run the risk of metastasis. In a few rare cases the tumor

has escaped observation, since its growth was only sufficient to make good the atrophy of that portion of the intestine. Such a tumor may escape recognition even when an exploratory laparotomy has been made. Quenu cited such a case occurring in his own practice, where at autopsy there was found a small circular cancer of the sigmoid.

TUFFIER, encouraged by the success which has been obtained in dogs, by rhythmical compression of the heart for cardiac syncope, applied the same method to a man aged twenty-four years. This patient was operated upon for acute appendicitis. All went well until the fourth day. Then during the surgeon's visit the patient was attacked with syncope, and the heart absolutely stopped beating. Artificial respiration, combined with rhythmical traction of the tongue, failed utterly. The third intercostal space was incised, the pericardial sac was opened, and the ventricles were compressed between the thumb and finger some sixty or eighty times, when the arterial pulsations returned, and the patient opened his eyes. They ceased again in two or three minutes, but once more returned after the heart had been a second time subjected to compression. The pulsations, however, soon ceased, and did not return in spite of every effort. The autopsy showed that there was a large clot in the pulmonary artery.

HENNEQUIN presented a report upon the treatment of old dislocations of the shoulder. He advocated operation only in exceptional circumstances. Experience showed that success often followed a second or third attempt at reduction, even when previous attempts made with an anesthetic had failed. This treatment ought, therefore, to be very thorough before operation is resorted to. The fibrous tissues which offer resistance to reduction appear to form less rapidly in women than in men, hence attempts at reduction of dislocations in women may be successful several months after the accident.

SCHWARTZ mentioned an interesting case of intestinal obstruction which developed in a pregnant woman aged thirty-two years. Operation was performed, and a loop of small intestine was found firmly fixed behind the uterus by old adhesions to the broad ligament. With the separation of these adhesions gas and fecal matter passed through the intestines, and the patient recovered. The five-month's-old fetus was expelled the night after the operation.

At the Medical Society of the Hospitals, October 28th, RENDU said that a woman aged thirty years had been given 6 grams (90 grains) of salicylate of soda, to be taken in six doses through the day. She had suffered about six weeks from an acute attack of rheumatism, with high fever and much pain, but neither cardiac nor renal complications were present, as far as could be observed. The following day she felt much better, and the fever was abated. The joints were still swollen and painful, and the medication was continued until eight o'clock that evening. Without warning the patient suffered a chill, and then became violently delirious, having hallucinations of sight and hearing. This delirium persisted for thirty-six hours, and then disappeared. The patient was absolutely without recollection of anything that occurred during the period of delirium. During this period the temperature was not at all elevated, the pupils were contracted and unequal, while the urine was scanty and contained a great quantity of albumin and indican. The salicylate of soda was stopped as soon as the delirium appeared, and the patient recovered, not only from the delirium, but from her rheumatism.

ACHARD thought that the delirium might have been due to the scanty secretion of urine.

BERNARD once gave a woman aged forty-five years, who suffered from acute rheumatism without complications, 12 grams (180 grains) of salicylate of soda in divided doses. The patient was neither alcoholic nor neurotic, and there was no albumin in her urine. The treatment brought on an attack of acute mania, with hallucinations of sight and hearing. At the end of forty-eight hours her state had again become normal.

At the session of November 4th, NETTER described a case of scurvy which occurred in a child aged one year that was fed upon sterilized milk. All the classical symptoms were present: anemia, weakness of the lower limbs, subperiosteal hemorrhages, lesions of the gums, etc. The child was put upon a diet containing meat, orange-juice, puree of potato, etc., and quickly recovered.

At the Twelfth Congress of Surgery, October 17, 1898, GUYON and ALBARRAN read a paper upon "Nephrotomy," an operation which is to-day done (1) to explore the kidney or the ureter; (2) to permit the extraction of a calculus; (3) as a preliminary to certain operations upon the pelvis or ureter. The curved or oblique lumbar incisions are the best. When the kidney has been opened the surest method of exploration is this: one finger may be introduced into the pelvis of the kidney, to palpate against another finger on its outside. Even this method may fail to detect some renal conditions, for example, miliary tuberculosis. In one case a small cancer was overlooked until the microscopic examination of some false membrane revealed its presence.

A permanent opening in a kidney—nephrostomy—may be established either through an abdominal or lumbar incision. The latter method is less dangerous, is easier to accomplish, and facilitates future operations if such are necessary. To avoid perirenal suppuration the lips of the renal wound should be stitched to the anterior and posterior margins of the lumbar incision. The object of nephrostomy is to drain a septic or aseptic collection, or to re-establish urinary secretion in a condition of anuria.

The urine which drains from a renal fistula is practically normal if there was no obstruction to its flow before the operation. On account of the constant flow of water outward severe infection of the pelvis is not likely to occur. The parenchyma of the organ is affected scarcely at all, and in anuria renal secretion begins as soon as the operation is performed. If before nephrotomy was performed there was a condition of obstruction to the urinary flow the urine will return to its normal condition after the fistula has been established, more or less rapidly and perfectly, according to the nature of the obstruction, partial or complete, simple or septic, etc.

In calculus obstruction it is necessary to consider not only the mechanical obstruction, but the congestive phenomena, and the suppression of urine due to reflex influences. Usually, in calculus anuria the opposite kidney ceased to act before the anuria appeared. Sometimes this kidney looks normal but even then it will be found to present signs of nephritis which rendered it susceptible to reflex influence.

Ureterotomy may be performed for calculus, but it is difficult and sometimes unsatisfactory, and is not to be preferred to nephrostomy. Pyelotomy is feasible when the calculus is surely in the pelvis, but recovery is less prompt than when the incision is made through the parenchyma.

In uronephrosis it is better to make an incision than to remove the kidney. But a fistula is not the ideal operation, and attempts should be made to remove the cause of distention by ureteral catheterization, nephrorrhaphy, ureterotomy, or ureteropyelostomy. If the other kidney is damaged and it is necessary to spare the parenchyma of this one, nephrotomy is indicated, and conservative operations should be undertaken with great prudence. Nephrectomy under such circumstances is contraindicted, but may be performed upon a kidney whose secretion is of limited value, if the other kidney is active. In simple pyonephrosis a renal fistula is preferable to any anastomosis intended to reestablish the normal course of the urine. After suppurative symptoms have subsided such reparative operations may be undertaken.

In tubercular pyonephrosis a fistula is more troublesome, and its benefits are often of short duration. If the affected kidney has no value, and the opposite one is sufficient to sustain life it is better to remove the diseased one. Usually there is tuberculosis of the pelvis and parenchyma as well. "We have many times performed nephrotomy for tuberculosis, but have never seen the fistula close, and invariably the patients have died within two years." If one can assure himself of the good state of the other kidney, it is doubtless better to perform a nephrectomy. It has not been shown that a secondary nephrectomy is less dangerous than a primary one. Published statistics show that the mortality from nephrectomy for tuberculosis is twenty-eight per cent. for primary and thirty-four per cent. for secondary operations. The mortality of the primary operations of seven of the best European surgeons is only ten per cent., and that of eighty-four nephrotomies performed by different surgeons is seventeen per cent. Nephrotomy in tuberculosis is an operation of necessity, but one may count upon great amelioration of the symptoms after the fistula has been established.

ALBARRAN spoke of the treatment of fistulas after nephrotomy. If a urinary fistula persists when the pelvis is not distended, it indicates either that the pelvis was injured at operation, or that there has been an infection following operation. If the pelvis was much distended before the nephrotomy, the ureter may remain impervious on account of a fold in its insertion. This may perhaps be overcome by leaving a catheter *in situ* for a time, or by establishing an anastomosis between the pelvis and the ureter. If these measures fail, or if the ureter is not permeable for a catheter throughout its whole extent from below upward, a catheter is passed as far as possible, and the ureter is then cut down upon and every effort made to restore the continuity of its lumen before a nephrectomy is resorted to. If the urine contains pus search should be made for perirenal purulent foci. If such are present it may be possible to drain them and heal the kidney without removal. One should not be in a hurry to close up a fistula after operation. By waiting some time the ureteritis will often recede, so that the conditions for success of a plastic operation are greater.

JONNESCO reported that he had performed fourteen hemicraniectomies, and two frontoparietal craniectomies, with three deaths inside of six weeks after the operation. Six patients were cured, one of acute mania and epilepsy, two of old traumatic epilepsy, one of Jacksonian epilepsy, and two of hysteria with prostration and idiocy. One hemiplegic epileptic, and one microcephalic idiot, were improved. The operation was six times unsuccessful upon two epileptics with acute mania, and four idiots.

CALOT advocated the treatment of tubercular cervical adenitis by means of injections of chlorid-of-zinc solution, one part to fifty of water. Two to three grains (30 to 40 minims) are injected with a very fine needle, every third or fourth day. The treatment will cause the disappearance of the gland, without any permanent scar, provided only that the skin has not yet become involved in the inflammation at the time treatment was commenced.

TUFFIER practised ligation of the uterine arteries for cancer, in seven patients. The best result was that life was prolonged for two years before yielding to metastasis. Neither in these cases nor in certain fibromyomata of the uterus, was there any apparent curative effect. The utmost that can be hoped for from this treatment is the slowing of the morbid process.

SOCIETY PROCEEDINGS.

NEW YORK STATE ASSOCIATION OF RAILWAY SURGEONS.

Eighth Annual Meeting, Held at the New York Academy of Medicine, Thursday, November 17, 1898.

THE morning session was devoted to the special topic

SURGICAL SERVICE ON RAILWAYS,

and the discussion was participated in by prominent railway surgeons and officials, including railway presidents, division superintendents, attorneys, and claim agents. The proceedings, of great practical interest to the railway surgeon, were scarcely of sufficient general interest to warrant a report of them here.

The afternoon session was taken up with the election of officers and the reading of papers.

The officers elected for the ensuing year are: President, T. D. Mills of Middletown; first vice-president, J. L. Eddy of Oleon; second vice-president, G. N. Hall of Binghamton; secretary, C. B. Herrick of Troy; treasurer, H. P. Jack of Canisteo.

DR. C. B. HERRICK of Troy, the retiring president, delivered the President's address on

SURGICAL TECHNIC.

He considers that the more simple the preparatory technic the better. Surgeons who go to extremes in their asepsis obtain no better results than those who observe carefully though not over minutely the ordinary details of surgical cleanliness. The old surgeons, even before the days of antisepsis and asepsis, did not lose by any means the majority of their patients, and some of their statistics are worthy to be referred to yet. A marble operating-room and all the expensive accessories that go with it are not indispensable to good and successful surgery, and the fact that it may be impossible to secure any but the simplest conditions of cleanliness for an operation, must not be allowed to discourage the surgeon from doing all in his power under such simple conditions to save human life especially in emergencies.

DR. HENRY FLOOD of Elmira read a very practical paper, entitled

REMARKS ON AMPUTATION OF THE FOOT.

The foot is so important to the wage-earner that every half inch saved below the mediotarsal articulation should be considered of the greatest value. The operator should be bold to save, not to amputate. Accident is no respecter of anatomy, and no hard and fast lines of amputation should be observed. There are those who suggest a Symes' amputation for a crushed foot, because a very useful artificial foot with a not ungraceful action in walking can be secured to supply the missing member. But such prothetic apparatus is expensive, needs frequent renewing, and is not nearly as useful for the workingman as the smallest part of the foot that can be saved. Never go higher up to amputate because of any claims as to more adaptable prothetic apparatus; with the advance in that regard in our day, it is always a mistake. As in amputations of the hand save all tissue possible without regard to classic types of amputations. Treat the foot as a whole and amputate where necessary. As far as possible take plantar flaps, as the tissue of the sole is better suited for the end of the stump, but make use of dorsal flaps when the other is not available. Be careful of the Esmarch bandage and of tourniquets. They produce an artificial anemia and deceive as to what tissue is really alive, besides the temporary interference with the circulation may lower the vitality or eventually cause the death of tissue that would otherwise live. In amputating it is better to pick up and clamp or tie the cut vessels at once, except after severe hemorrhage, when it is necessary to avoid even the slightest blood loss, when some obstructive method of hemostasis may be employed.

DR. G. N. HALL of Binghamton read a paper, entitled

IS A RAILWAY SURGEON JUSTIFIED IN PERFORMING PIROGOFF'S AMPUTATION?

He considers the operation unjustifiable because the blood-supply to the flaps is almost necessarily interfered with under normal anatomical circumstances by the incisions prescribed for the amputation. Besides the nutrient foramen, the os calcis is below the point where the main artery is cut, so that necrosis of the calcaneum will ensue unless good union with the tibia should be secured immediately. Statistics show that it is the amputation of the foot that has to be oftenest repeated, and one-third of the cases in which it has been done have been followed by failure or death.

DR. JOHN WYETH, in discussing the two papers on amputations of the foot, said that he thoroughly agrees with the conservative spirit that would save every bit of tissue possible. He does not believe in immediate amputations and very seldom does a primary amputation in crushing injuries. To have to repeat the operation later he does not consider in these anesthetic days as a reflection upon the surgeon's skill. It does show that he fails in the proper direction, that of over conservatism. He finds position a great aid in controlling hemorrhage, the foot being raised or the patient's body lowered, and he is able to dispense with an Esmarch or tourniquet. For years he has treated the foot in amputations as if it were one bone, and he is glad to find men of large practical experience agree with him. He prefers Symes' to Pirogoff's amputation, though a Symes' stump will require an expensive artificial foot and frequent renewal of it, so that he makes his declaration only for reasonably well-to-do patients, not for laboring men.

DR. W. L. ESTES of Bethlehem, Pa., said three practical questions come up for solution when it is proposed to do an amputation of the foot: (1) Where can the flaps be obtained? (2) What form of stump will be best for this particular patient in after life? (3) What amputation will be followed by the shortest present disability? This last question is especially important in the case of the laboring man. The foot should be considered as a whole in any amputation, the line of section being the lowest that flaps can be got to cover. There are some suggestive things in the classic types of amputations. One not mentioned in the discussion is Mikulicz's for injuries of the heel. It especially enabled the operator to avoid the danger of having in young people a conical stump develop, which is so liable to happen if the amputation is in the leg itself. No attention should be paid to certain instrument-makers' representations as to the advisability of amputating at certain joints. No tissue should be sacrificed to any such false notion.

DR. MANLEY of New York said the surgeon should hesitate to sacrifice any tissue until he is sure it will not live. The reaction should be waited for in order to be assured as to where Nature will draw the line of demarcation between living and non-living tissue. The so-called classic amputations of the foot in the text-books should be wiped out once and for all. They have done far more harm than good. The Esmarch and the tourniquet are to be very charily employed; they have undoubtedly often done harm. A device that has been of great use to him on more than one occasion is what the French call the *desossement* of a toe, the bones of the toe being removed in order to supply tissue to help cover in the end of a stump.

REVIEWS.

A MANUAL OF SURGERY. By WILLIAM ROSE, M.B., B.S. (London), F.R.C.S., Professor of Clinical Surgery in King's College, London, and Senior Surgeon to King's College Hospital, etc., and ALBERT CARLESS, M.S. (London), F.R.C.S., Senior Assistant Surgeon to King's College Hospital, and Teacher of Operative Surgery in King's College, London, etc. New York: Wm. Wood & Co., 1898.

IN their preface, the authors express themselves as intending this work to be an abridged consideration of the subject of surgery, thus supplying a "genuine need." It is a volume of 1144 pages and 392 illustrations, printed in such small type with such narrow spacing as to make it rather trying to read this otherwise interesting and completely handled subject.

In every paragraph the student is made to appreciate the significance of bacteria as factors of disease, consequently etiology, pathology, and therapy are rationally dealt with. The first five chapters give an extensive consideration of surgical bacteriology, yet we fail to find a single chapter devoted to the methods of antisepsis or asepsis; certainly a flagrant omission. Of interest to teachers in this country might be an enumeration of the points in which these English authors are at variance with us. They deprecate the use of O'Dwyer's tube in diphtheritic stenosis for fear of dislodging the membrane. As to appendicitis, however, they side with the majority of us in considering its treatment surgical. A case of carcinoma of the breast, requiring a clearing out of Mohrenheim's fossa, is considered unsuitable for operation. In the abandonment of irrigations in empyema they are in line with our teachings. For hernia they favor Mitchel Banks' operation. The fear of asphyxia when opening retropharyngeal abscesses internally is not founded on clinical experience nor are most of the other reasons potent enough to call for the major operation of external incision.

Certainly the Paquelin cautery has a place in the treatment of certain angiomata. With others of the British school the authors consider colotomy a more favorable operation for carcinoma than excision. After all, these few instances comprise but mooted points, which do not detract from the value of this work as a text-book for students to whom it will commend itself for the reasons stated, besides being one of the latest works on the subject.

AN AMERICAN TEXT-BOOK OF THE DISEASES OF CHILDREN. By American Teachers. Edited by LOUIS STARR, M.D., Consulting Pediatrist to the Maternity Hospital, Philadelphia; Late Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Assisted by THOMPSON S. WESCOTT, M.D., Instructor in Diseases of Children, University of Pennsylvania; Visiting Physician to the Methodist Episcopal Hospital. Second Edition, Revised. Philadelphia: W. B. Saunders, 1898.

THIS work, of which the first edition appeared in 1894, is before us in a much revised form. There are new articles on "Modified Milk and Percentage Milk Mixtures," on "Lithemia," and on "Orthopedics." A large number of articles has been rewritten and numerous others have been much amended. It will be necessary here to review only the new articles and those especially revised. As a whole the volume shows the same good qualities which called forth such enthusiastic reviews four years ago.

The opening article by Starr, on infant-feeding and hygiene has been rewritten and is very modern. The writer is evidently in favor of Pasteurization. It will hardly do to call "heating milk at 155° F. for six minutes" sterilization. Starr describes fully all the usual methods of diluting milk, except Rotch's, which is explained in a new contribution by Westcott, who also states in detail his own method of percentage dilution. Leeds gives a good review of the composition of various milks and artificial foods and describes what is meant by "certified milk."

Rochford contributes a new article on "Lithemia," which he considers "essentially an auto-intoxication resulting from the presence of an excess of alloxuric bodies in the body media." He describes two main classes, the gastro-enteric and the nervous, and adds some interesting remarks on the urinary and skin complications. Considering the darkness of this subject, and our lack of exact information as to the causation, we should have preferred to see the article headed "Auto-intoxication," as the author himself suggests.

In the article on measles, by Starr, a description of the buccal eruption, as described by Koplik, has been added. The articles on rubella, varicella and parotitis, by Plant, are exceedingly well written, but we should like to have heard something of the recently described diplococcus of parotitis and less about Bordas' bacilli. Similarly, in the article on pertussis, by Griffith, some mention of Koplik and Czaplewski's work would have been very welcome.

Morrill has rewritten his contribution on typhoid fever. The present status of the Widal reaction is not properly defined. From the statements made one would be led to infer that the reaction occurs in all cases of typhoid fever, and no mention is made of the occurrence of the reaction in some cases very late in the course of the disease.

Lumbar puncture is not referred to by the author of the articles on epidemic cerebrospinal meningitis and simple cerebrospinal meningitis. It is, however, shortly described by Lloyd in his excellent account of tubercular meningitis. It is rather surprising to find no mention of the intracellular diplococcus and its rôle in the first-named disease.

Brown writes fully and interestingly on diphtheria except in reference to antitoxin. A detailed account of the reduction in mortality after its use and of its dosage is given, but as to how it affects the membrane, the temperature, etc., nothing is said, nor are the succeeding rashes and joint complications mentioned.

We are pleased to see that Packard, in his article on anemia, does not treat of "anemia infantum" as a separate clinical entity. The articles on nervous diseases are admirable. The contribution on cretinism has been

revised by Spiller, whose description leaves nothing to be asked for. He draws special attention to the so-called "cretinoid" cases.

Lack of space prohibits our mentioning numerous other articles worthy of note. The defects we have noted above are almost entirely those of omission and hardly detract from the great clinical value of the book.

WOUNDS IN WAR. By SURGEON-COLONEL W. F. STEVENSON (Army Medical Staff), A.B., M.B., M.Ch., Professor of Military Surgery, Army Medical School, Netley. New York: Wm. Wood & Co., 1898.

WITHOUT purporting to present anything novel, this work was planned "for the use of officers in the three services" (British). Much therein contained is largely a compilation of earlier writers. The high esteem which the author has for Otis' "Surgical History of the War of the Rebellion" is evidenced by the many references to it.

The first chapter is devoted to remarks on weapons, firearms, obsolete and modern, and projectiles and their mechanics. Injuries produced by projectiles of small caliber are discussed in Chapter II., and the author's experiments contrasted with those of Bruns, Demosthen, and Van Coler. Stevenson agrees in the main with the latter two, but rejects the conclusions of Bruns, whose experiments were conducted with reduced charges at fixed short ranges. The author maintains that only results of actual warfare can furnish the *experimentum crucis* for the small bore.

With others he believes in the humane advantages of the mantled bullet; yet he foresaw its inefficiency in "stopping power" when employed against savages—thus forestalling actual experience in the "Chitral campaign" which called forth the "dum-dum" bullet. This being the *raison d'être* for the bullet ought to allay the fears of the Germans, instilled by Bruns, as to its universal use.

Under the general consideration of treatment of bullet wounds, the author favors searching for the bullet only when extensive injuries in themselves demand operations. With his otherwise keen appreciation of the details of antisepsis it is rather disappointing to read the author's recommendation of such an unsurgical procedure as the use of sulphate of iron for hemostasis of capillary hemorrhages. The use of the Röntgen-rays is not mentioned.

In the succeeding six chapters the injuries of special organs and their treatment are discussed with excellent judgment and due regard for the versatility of military operations the exigencies of which will ever minimize much that might be expected from conservative treatment and antisepsis. In the closing chapter the author gives the nine articles of the "Geneva Convention," supplementary to which he rightly remarks: "No military medical service unassisted can in future efficiently carry out the work required of it." He follows this with the astonishing arraignment that in England alone this auxiliary help is more poorly organized than in any other country.

Without wishing to detract from the merits of the treatise we cannot but express our regrets that so much therein is but a reflection of the experience of pre-antiseptic days, and not the experiences of smaller campaigns in Japan, Chitral, Abyssinia, and Greece. However, to those of us recently engaged in the throes of war, this excellent volume from the pen of this specially schooled military surgeon is very instructive reading.

THERAPEUTIC HINTS.

Subconjunctival Injections of Iodin for Choroiditis.—

℞	Iodi pur.	gr. $\frac{1}{4}$–$\frac{1}{3}$
	Potassii iodi	gr. xv
	Aq. dest.	ʒi.

M. Sig. External use.

Of this solution 4 to 5 drops are injected under the bulbar conjunctiva every two or three days, and as the reaction diminishes the amount injected is increased gradually to 10 or 15 drops. A slight degree of chemosis is caused and some pain; the former disappears in 12 to 24 hours, and the latter decreases with successive treatments. Favorable effects are seen in two or three weeks in a diminution of size of the floating opacities and an improvement in vision, especially of central vision, this being true even in cases of muscular choroiditis.—*Sourdille.*

For Acute Dysentery.—SANDWITH of Cairo advises the following treatment: The patient is to stay in bed with flannel over the abdomen, and placed on a diet of boiled milk, rice water, and Seltzer, plus a little whisky. A dose of salicylate of bismuth, 15 grains, is given every 4 hours. The intestine is washed out daily with a quart of boric acid and starch solution, and for a few days daily rectal injections are made with the following mixture:

℞	Cupri sulphat.	gr. xv
	Tinct. opii	gtt. xv
	Amyli	ʒi
	Aquæ	ʒviii–Oii.

M. Sig. For one rectal injection.

A cocain suppository may be inserted afterward if indicated.

For Melæna Neonatorum.—

℞	Etheris acetici	*m.* xxxii
	Aq. sacchari	ʒii.

M. Sig. One teaspoonful every four hours.—*Seifert.*

Cardiac Stimulation for a Child.—

℞	Spts. etheris comp. . . .	*m.* lxxx
	Tinct. nucis vomicæ . . .	*m.* xl
	Tinct. lavandulæ comp. . .	*m.* lxxx
	Aq. cari . . . . q.s.ad	ʒiv.

M. Sig. One tablespoonful every four hours to a child of eight to twelve years.—*Ashby.*

For Enlarged Lymphatic Glands.—KATCHINOVSKY advocates the administration of the salts named below according to the Botkine method in order to produce nascent iodid of iron within the body since this acts so much more energetically than when given preformed:

a. One dram of potassium iodid in 6 ounces of water.

b. Ethereal tincture of malate of iron.

Add 3 to 20 drops of Solution B. to 2 or 4 teaspoonfuls of Solution A., and give twice a day at mealtime.